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TD10.9: 982
(serial).
COMPLETED
263

U.S. Department of Transportation

Research and
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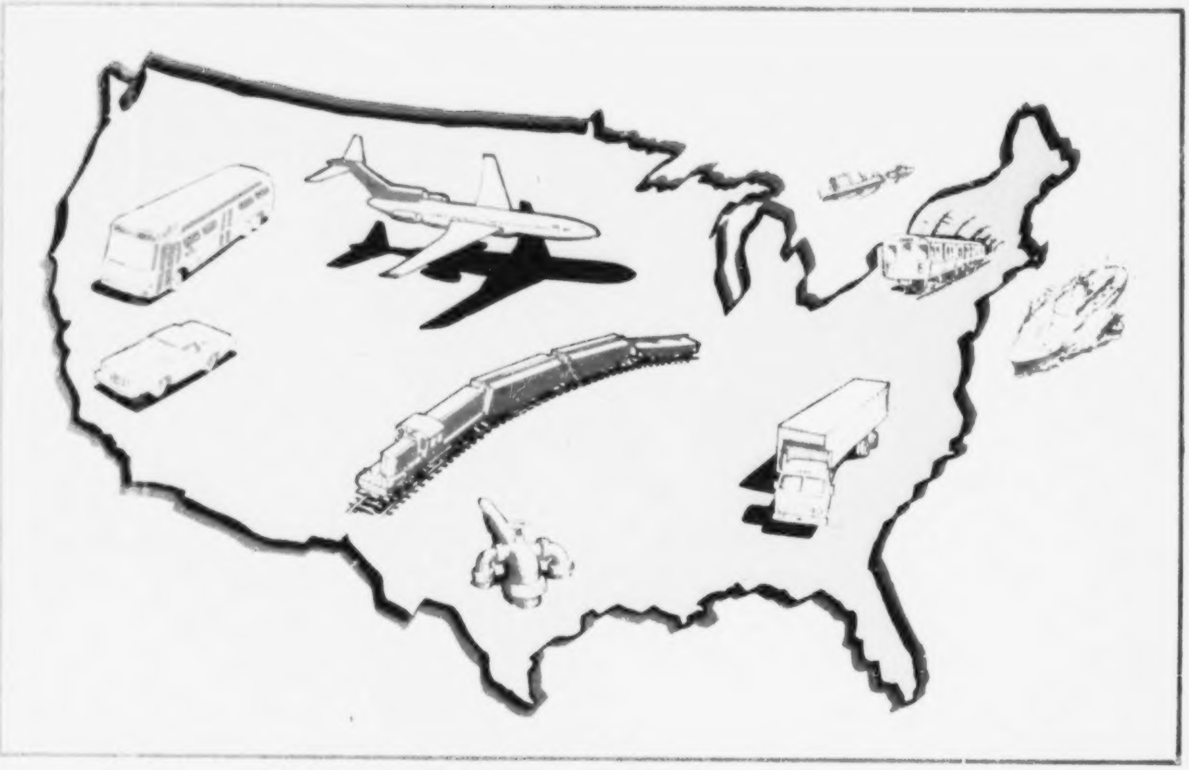
Administration

National Transportation Statistics

ORIGINAL

Prepared by
Transportation Systems Center
Office of Information Resources
Center for Transportation Information
Cambridge MA 02142



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Annual Report
November 1982

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Technical Report Documentation Page

1. Report No. DOT-TSC-RSPA-82-3	**2. Government Accession No.**	**3. Recipient's Catalog No.**

4. Title and Subtitle
NATIONAL TRANSPORTATION STATISTICS

5. Report Date
November 1982

6. Performing Organization Code
TSC/DTS-32

7. Author(s)
John F. Mitchell, Task Manager

8. Performing Organization Report No.
DOT-TSC-RSPA-82-3

9. Performing Organization Name and Address
U.S. Department of Transportation
Transportation Systems Center
Office of Information Resources
Center for Transportation Information
Cambridge MA 02142

10. Work Unit No. (TRAIS)
RS209/R2503

11. Contract or Grant No.

12. Sponsoring Agency Name and Address
U.S. Department of Transportation
Research & Special Programs Administration
Office of Policy, Plans, and Program Management
Washington DC 20590

13. Type of Report and Period Covered
Annual Report
January 1970-December 1980

14. Sponsoring Agency Code
DPA-26

15. Supplementary Notes

16. Abstract

This report is a summary of selected national transportation statistics from a wide variety of government and private sources. Included are cost, inventory, and performance data describing the passenger and cargo operations of the following modes: air carrier, general aviation, automobile, bus, truck, local transit, rail, water, oil pipeline, and gas pipeline. The report includes basic descriptors of U.S. transportation, such as operating revenues and expenses, number of vehicles and employees, vehicle miles and passenger miles, etc. A supplementary section includes Transportation and the Economy and Energy in Transportation. Energy in Transportation is divided into four parts: Energy Consumption, Energy Transport, Energy Intensiveness, and Energy Supply and Demand. Also included are the operating costs of automobiles of different sizes. In this edition, the selected data cover the period 1970 through 1980/1981.

17. Key Words
Statistics, Transportation, Energy Cost, Inventory, Performance, Passenger Operation, Cargo Operation, Operating Expenses/Revenue, Employees, Number of Vehicles, Passenger Miles, Vehicle Miles

18. Distribution Statement
For sale by the Superintendent of Documents
U.S. Government Printing Office,
Washington DC 20402

19. Security Classif. (of this report)	**20. Security Classif. (of this page)**	**21. No. of Pages**	**22. Price**
Unclassified	Unclassified	212	

Form DOT F 1700.7 (8-72) **Reproduction of completed page authorized**

For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402
Stock No. 050-000-00472-4

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CONVERSION FACTORS

Heat Content for Various Fuels

Fuel Oils		Natural Gasoline	4,620,000 Btu/bbl
Crude	5,800,000 Btu/bbl	Petroleum Coke	6,024,000 Btu/bbl
Residual	6,287,000 Btu/bbl	Asphalt	6,636,000 Btu/bbl
Motor Gasoline	5,253,000 Btu/bbl	Wax	5,537,000 Btu/bbl
Aviation Gasoline	5,048,000 Btu/bbl	Road Oil	6,636,000 Btu/bbl
Jetfuel (Kerosene)	5,670.000 Btu/bbl	Natural Gas	
Jetfuel (Naphtha)	5,355,000 Btu/bbl	Liquid	3,925,000 Btu/bbl
Distillate (Diesel Oil)	5,825,000 Btu/bbl	Dry (Non-utility)	1,016 Btu/ft
Crude Petroleum	5,800,000 Btu/bbl	Coal	
Ethane	3,082,000 Btu/bbl	Anthracite	25,170,000 Btu/Short Ton
Still Gas	6,000,000 Btu/bbl	Bituminous and Lignite	25,070,000 Btu/Short Ton
Lubricants	6,065,000 Btu/bbl	Coke	26,000,000 Btu/Short Ton
		Electricity Consumption	3,412 Btu/kWh

Volume Conversions

From \ To	$in.^3$	ft^3	U.S. gal	Imp. gal	liter	bbl
$in.^3$	1	5.787×10^{-4}	4.329×10^{-3}	3.605×10^{-3}	0.01639	1.031×10^{-4}
ft^3	1728	1	7.481	6.2292	28.32	0.1781
U.S. gal	231	0.1337	1	0.8327	3.785	2.381×10^{-2}
Imp. gal	277.4	0.1606	1.201	1	4.545	2.859×10^{-2}
liter	61.02	3.531×10^{-2}	0.2642	0.2200	1	6.29×10^{-3}
bbl	9702	5.615	42	34.972	158.97	1

Mass Conversions

From \ To	lb (avoirdupois)	kg	Short ton	Long ton	Metric ton
lb (avoirdupois)	1	0.4536	5.0×10^{-4}	4.4643×10^{-4}	4.5362×10^{-4}
kg	2.205	1	1.1023×10^{-3}	9.8425×10^{-4}	1.0×10^{-3}
Short ton	2000	907.2	1	0.8929	0.9072
Long ton	2240	1016	1.12	1	1.016
Metric ton	2205	1000	1.102	0.9842	1

Length Conversions

From \ To	cm	in.	ft	yd	m	mile	km
cm	1	0.3937	3.281×10^{-2}	1.0936×10^{-2}	1.0×10^{-2}	6.214×10^{-6}	1.0×10^{-5}
in.	2.54	1	8.333×10^{-2}	2.778×10^{-2}	2.54×10^{-2}	1.578×10^{-5}	2.54×10^{-5}
ft	30.48	12	1	0.333	0.3048	1.894×10^{-4}	3.048×10^{-4}
yd	91.44	36	3	1	0.9144	5.682×10^{-4}	9.144×10^{-4}
m	100	39.37	3.281	1.0936	1	6.214×10^{-4}	1.0×10^{-3}
mile	160,934	63,360	5280	1760	1609	1	1.609
km	100,000	39,370	3281	1093.6	1000	0.6214	1

Energy Conversions

From \ To	ft-lb	kg-m	hp-hr	Metric hp-hr	Btu	kWhr	Joule
ft-lb	1	0.1383	5.0505×10^{-7}	5.12×10^{-7}	1.285×10^{-3}	3.766×10^{-7}	1.356
kg-m	7.233	1	3.653×10^{-6}	3.704×10^{-6}	9.295×10^{-3}	2.724×10^{-6}	9.80665
hp-hr	1.98×10^{6}	2.7375×10^{5}	1	1.0139	2544	0.7457	2.6845×10^{6}
Metric hp-hr	1.953×10^{6}	270,000	0.9863	1	2510	0.7355	2.648×10^{6}
Btu	778.2	107.6	3.93×10^{-4}	3.985×10^{-4}	1	2.931×10^{-4}	1055
kWhr	2.655×10^{6}	3.671×10^{5}	1.341	1.3596	3412	1	3.6×10^{6}
Joule	0.7376	0.10197	0.3725×10^{-6}	0.3777×10^{-6}	0.9478×10^{-3}	0.2778×10^{-6}	1

1 quad Btu = .4724 million bbl crude per day = .1724 billion barrels crude per year

INTRODUCTION

Developing and maintaining vital transportation statistics is one of the missions of the U.S. Department of Transportation's Transportation Systems Center (TSC). This publication is produced to support this mission and is intended to disseminate national transportation and energy statistics to the transportation and energy communities.

While most of these statistics are available from various sources such as government agencies and trade associations, they are presented here in one convenient and comprehensive report. Particular attention has been taken in documenting the sources of all data. These sources are noted either on the same page as the data or in Appendix A — Source Information.

The reader is urged to utilize the Source Information, and to go directly to the given source for any additional information or explanation regarding the data in this Publication.

Four different formats are used — 1) Tree Displays, 2) Modal Profiles, 3) Performance Indicators, and 4) Transportation Trends — to spotlight various aspects of the major transportation modes. In addition, two supplemental data sections detail the role of transportation in the economy and the relation of energy to transportation. Time series transportation statistics are presented for the period 1970-1980. Energy consumption and supply-and-demand data cover the same period and extend back to 1950.

TREE DISPLAYS

Figure 2 illustrates the interrelations of the various modes via a tree display. This format presents the relationship between and within each transportation mode for the following areas:

Expenditures and Revenues
Vehicle-Miles
Passenger-Miles
Ton-Miles
Number of Vehicles
Fatalities
Energy Consumed

Because of the variety of data sources, the totals may not always equal the sums of the subordinate data. Sources for each statistic may be found by tracing its parenthetical reference number to Appendix A. Where data are not available or not applicable, the block is shaded and no data are shown. Dotted lines indicate alternate groupings, e.g., "LIGHT RAIL" is contained in both "LOCAL TRANSIT" and "RAIL PASSENGER."

MODAL PROFILES

The Modal Profiles present cost, inventory, and performance data comparisons for 1970, 1979, and 1980. Not all of the types of data in these profiles are available for every mode, nor are they always applicable.

The following list indicates the type of data usually included to each group:

- I. Cost
  - A. Expenditures (private modes)
  - B. Revenues (for-hire modes)
  - C. Operating expenses
  - D. Federal expenditures
  - E. State and local expenditures
- II. Inventory
  - A. Number of companies
  - B. Number of vehicles
  - C. Number of employees
  - D. Mileage
- III. Performance
  - A. Vehicle-miles
  - B. Passenger-miles
  - C. Number of passengers carried
  - D. Ton-miles
  - E. Tons of freight hauled
  - F. Average passenger trip length
  - G. Average length of freight haul
  - H. Average speed
  - I. Number of fatalities
  - J. Number of fatal accidents
  - K. Total number of accidents
  - L. Fatality and accident rates

SELECTED PASSENGER AND CARGO PERFORMANCE INDICATORS

Selected modal statistics that are calculated on a per capita, per vehicle, or per mile basis are presented here for 1970, 1979, and 1980.

TRANSPORTATION TRENDS

This section includes transportation statistics from 1970 through 1980, using tables and graphs to indicate shifts in cost, inventory, and performance data.

SUPPLEMENTARY DATA

The first of the two supplementary sections "Transportation and the Economy," uses tabular and graphic statistics for the years 1970-1980 from the U.S. Department of Commerce report "Survey of Current Business" to show transportation's function in the economy and vice versa. The second section, "Energy in Transportation," deals with Energy Consumption, Energy Intensiveness, Energy Transport, and Energy Supply and Demand for the years 1970-1980 and 1981 when available.

APPENDIX A — SOURCE INFORMATION

Appendix A is a detailed list of data sources used by this publication. For the tree displays, parenthetical numbers in the figures indicate the data source in the appendix.

APPENDIX B — GLOSSARY

In order to clarify definitions, a glossary has been assembled and divided according to transportation modes. Existing glossaries such as in the Civil Aeronautics Board "Handbook of Airline Statistics" were used in assembling this glossary. The lack of comparable glossaries in other statistical handbooks, however, makes it difficult to prepare a complete dictionary.

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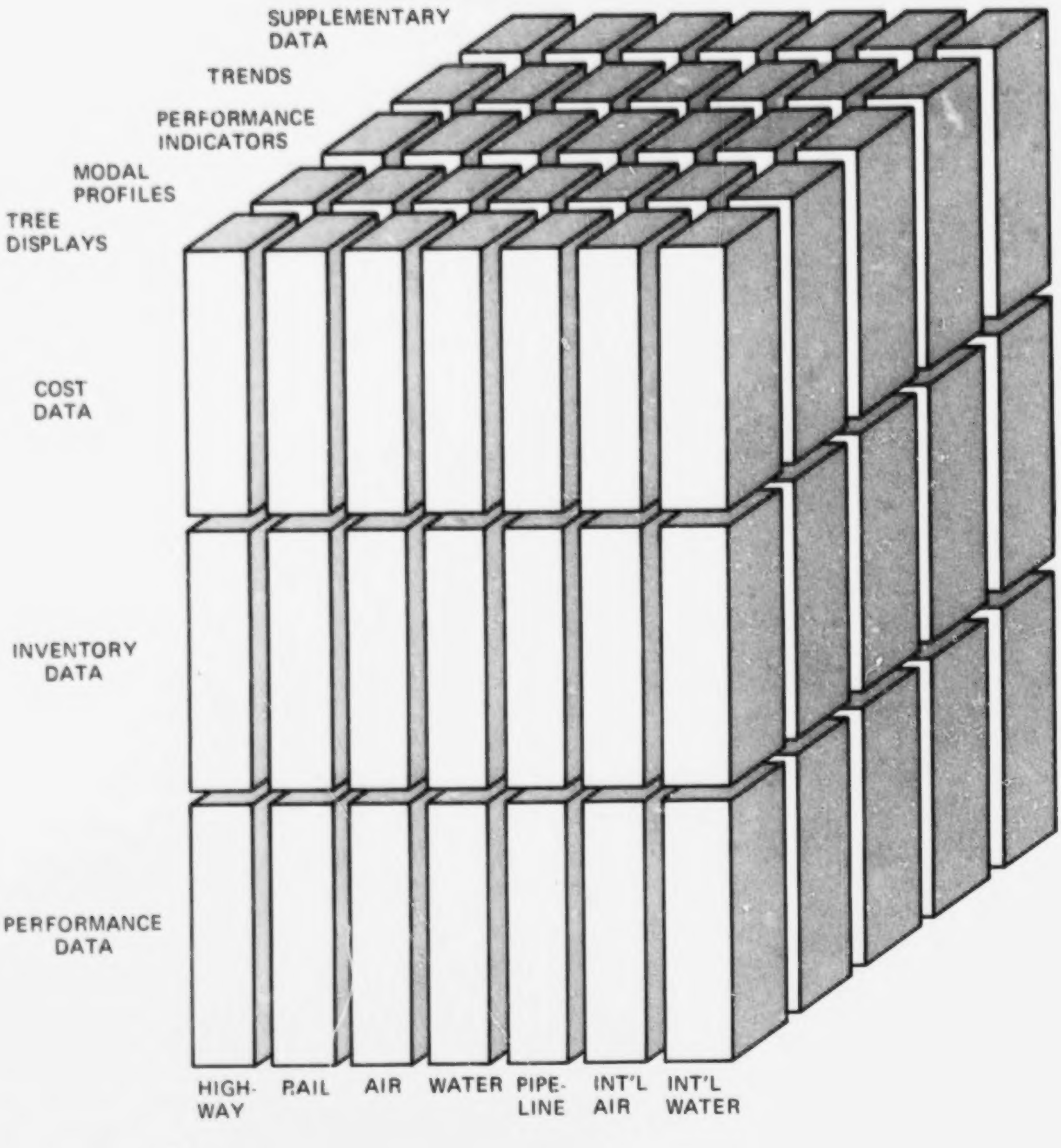
SUPPLEMENTARY DATA
TRENDS
PERFORMANCE INDICATORS
MODAL PROFILES
TREE DISPLAYS
COST DATA
INVENTORY DATA
PERFORMANCE DATA
HIGH-WAY
RAIL
AIR
WATER
PIPE-LINE
INT'L AIR
INT'L WATER

Figure 1. Organization of the Data

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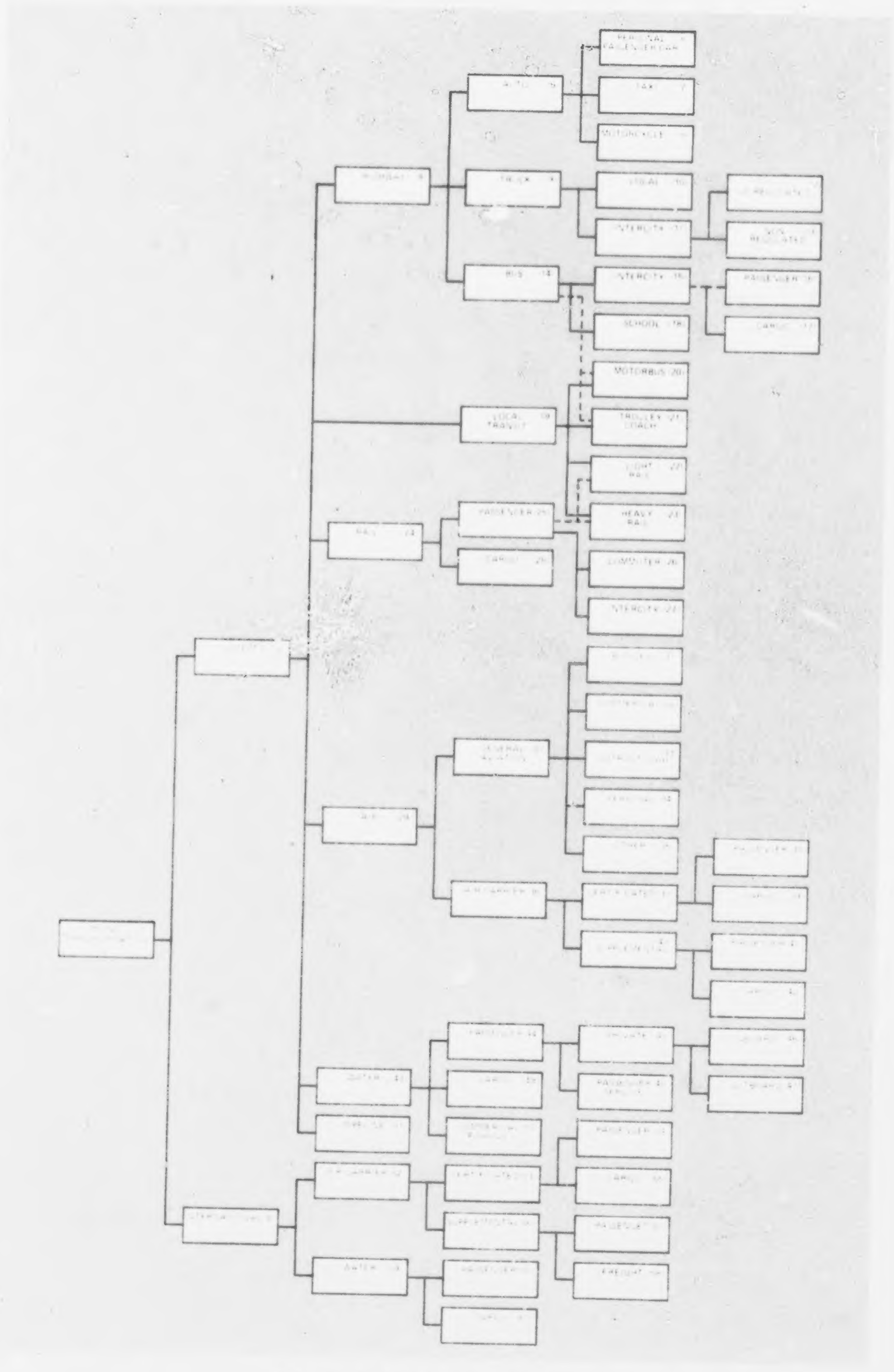
PERSONAL PASSENGER CAR
AUTO (5)
TAXI
MOTORCYCLE
HIGHWAY
TRUCK
LOCAL (10)
INTERCITY (11)
NON-REGULATED
BUS (14)
INTERCITY (15)
PASSENGER (16)
CARGO (17)
SCHOOL (18)
MOTORBUS (20)
LOCAL TRANSIT (19)
TROLLEY COACH (21)
LIGHT RAIL (22)
HEAVY RAIL (23)
RAIL
PASSENGER (25)
CARGO (26)
COMMUTER
INTERCITY
GENERAL AVIATION
AIR
AIR CARRIER
SUPPLEMENTAL
WATER
PIPELINE
PRIVATE
PASSENGER SERVICE
PASSENGER
CARGO
FREIGHT

Figure 2. Modal Structure

TREE DISPLAYS
1980

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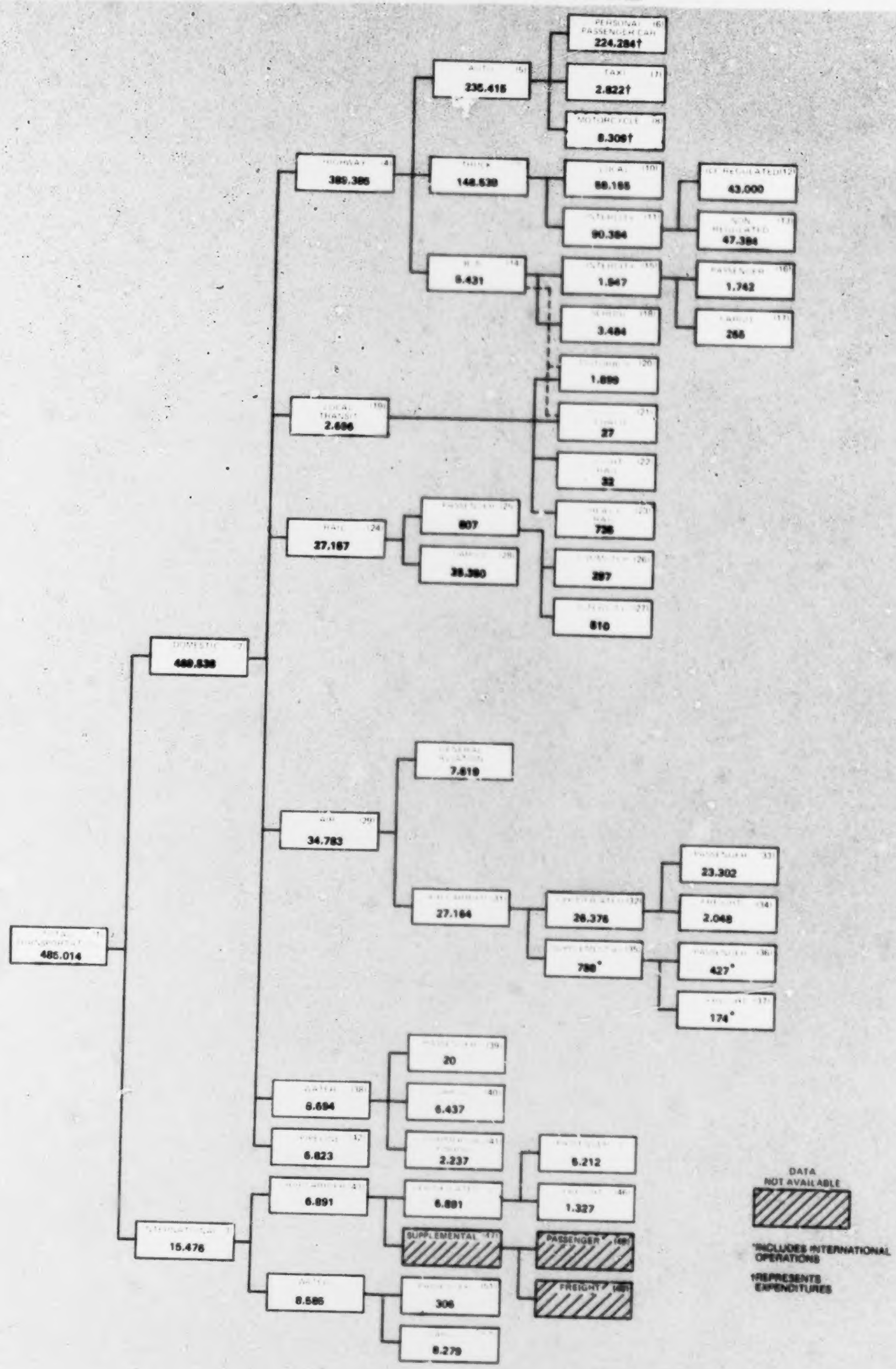
TOTAL TRANSPORTATION (1)
485.014
DOMESTIC (2)
460.538
HIGHWAY (4)
389.385
AUTO (5)
235.415
PERSONAL PASSENGER CAR (6)
224.284†
TAXI (7)
2.822†
MOTORCYCLE (8)
8.309†
TRUCK
148.539
LOCAL (10)
56.155
INTERCITY (11)
90.384
ICC REGULATED (12)
43.000
NON REGULATED (13)
47.384
BUS (14)
6.431
INTERCITY (15)
1.947
PASSENGER (16)
1.742
CARGO (17)
265
SCHOOL (18)
3.484
LOCAL TRANSIT (19)
2.696
MOTORBUS (20)
1.899
TROLLEY (21)
27
LIGHT RAIL (22)
32
HEAVY RAIL (23)
736
RAIL (24)
27.187
PASSENGER (25)
807
CARGO (28)
26.380
COMMUTER (26)
287
INTERCITY (27)
510
GENERAL AVIATION
7.619
AIR (29)
34.783
AIR CARRIER (31)
27.164
CERTIFICATED (32)
26.376
PASSENGER (33)
23.302
FREIGHT (34)
2.048
SUPPLEMENTAL (35)
788*
PASSENGER (36)
427*
FREIGHT (37)
174*
WATER (38)
6.694
PASSENGER (39)
20
CARGO (40)
6.437
(41)
2.237
PIPELINE (42)
6.823
INTERNATIONAL (3)
15.476
AIR CARRIER (43)
6.891
CERTIFICATED
6.891
PASSENGER
5.212
FREIGHT (46)
1.327
SUPPLEMENTAL (47)
PASSENGER* (48)
FREIGHT* (49)
WATER
8.585
PASSENGER (51)
306
CARGO
8.279
DATA NOT AVAILABLE
*INCLUDES INTERNATIONAL OPERATIONS
†REPRESENTS EXPENDITURES

Source: See Appendix A, p. 144.

Figure 3. Expenditures and Revenues ($ Millions) — 1980

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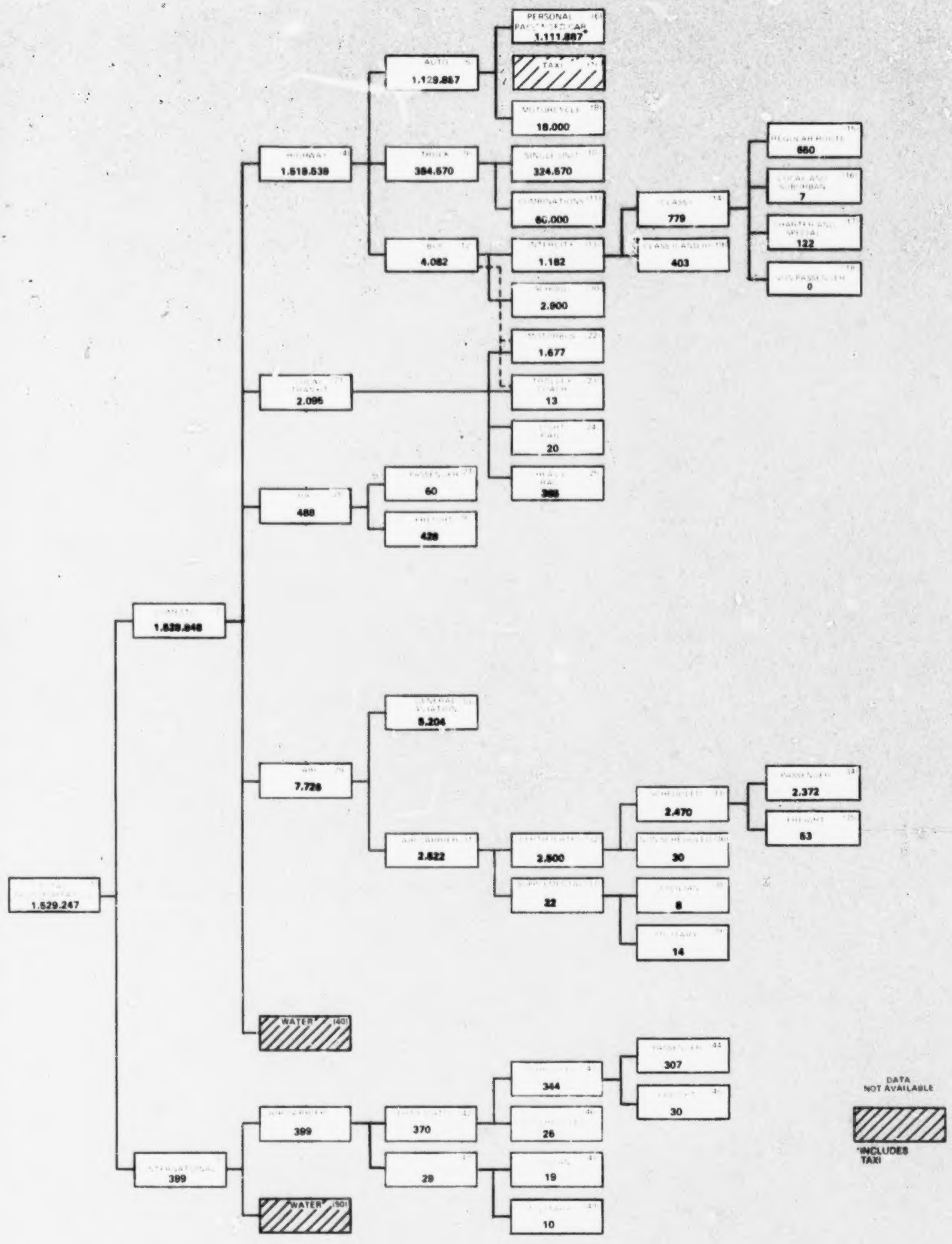
PERSONAL PASSENGER CAR (6)
1.111.887*
AUTO (5)
1.129.887
TAXI (7)
MOTORCYCLE (8)
18.000
HIGHWAY (4)
1.518.538
TRUCK (9)
384.570
SINGLE UNIT (10)
324.570
COMBINATIONS (11)
60.000
CLASS I (14)
779
REGULAR ROUTE (15)
660
LOCAL AND SUBURBAN (16)
7
CHARTER AND SPECIAL (17)
122
NON-PASSENGER (18)
0
CLASS II AND III (19)
403
BUS (12)
4.082
INTERCITY (13)
1.182
SCHOOL (20)
2.900
MOTORBUS (22)
1.677
LOCAL TRANSIT (21)
2.095
TROLLEY COACH (23)
13
LIGHT RAIL (24)
20
HEAVY RAIL (25)
385
RAIL
488
PASSENGER
60
FREIGHT
428
1.528.848
GENERAL AVIATION
5.204
AIR (29)
7.728
SCHEDULED
2.470
PASSENGER (34)
2.372
FREIGHT (35)
53
AIR CARRIER
2.522
CERTIFICATED (32)
2.500
NONSCHEDULED
30
SUPPLEMENTAL
22
CIVILIAN
8
MILITARY
14
1.529.247
WATER (40)
PASSENGER (44)
307
344
FREIGHT
30
AIR CARRIER
399
370
26
INTERNATIONAL
399
29
19
10
WATER (50)
DATA NOT AVAILABLE
*INCLUDES TAXI

Source: See Appendix A, p. 146.

Figure 4. Vehicle-Miles (Millions) — 1980

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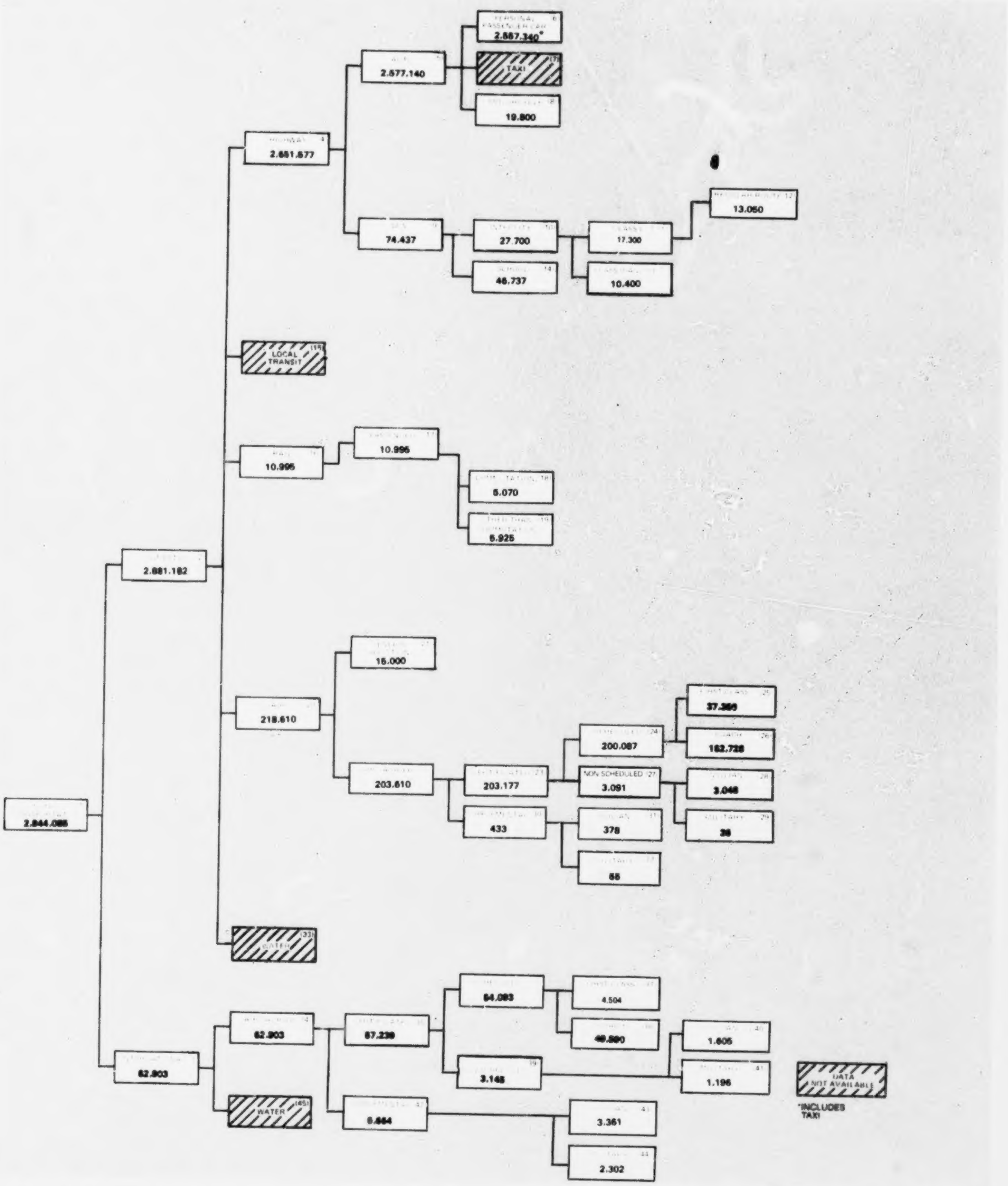
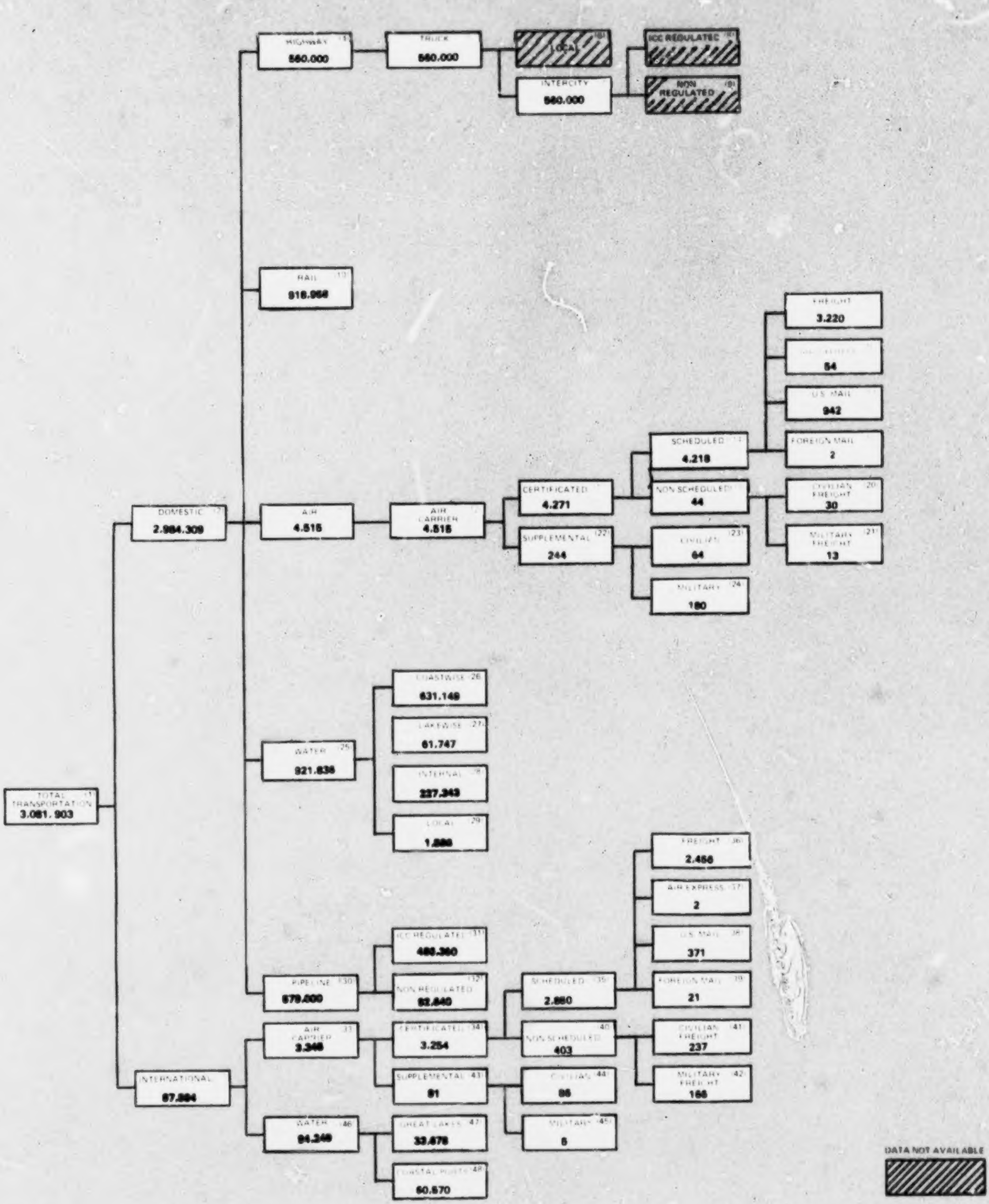

2.944.085
2.881.182
HIGHWAY (4)
2.651.577
AUTO (5)
2.577.140
PERSONAL PASSENGER CAR (6)
2.557.340*
TAXI (7)
(8)
19.800
BUS (9)
74.437
(10)
27.700
CLASS I
17.300
REGULAR ROUTE (12)
13.050
10.400
SCHOOL (14)
46.737
LOCAL TRANSIT (15)
RAIL (16)
10.995
PASSENGER (17)
10.995
COMMUTATION (18)
5.070
OTHER THAN COMMUTATION (19)
5.925
AIR (20)
218.610
(22)
15.000
203.610
(23)
203.177
(24)
200.087
FIRST CLASS (25)
37.359
COACH (26)
162.728
NON SCHEDULED (27)
3.091
CIVILIAN (28)
3.046
MILITARY (29)
36
(30)
433
CIVILIAN (31)
378
MILITARY (32)
55
WATER (33)
(34)
62.903
62.903
(36)
57.239
54.093
4.504
49.589
(39)
3.146
(40)
1.605
(41)
1.196
(42)
5.664
(43)
3.361
(44)
2.302
WATER (45)
DATA NOT AVAILABLE
*INCLUDES TAXI

Source: See Appendix A, p. 149.

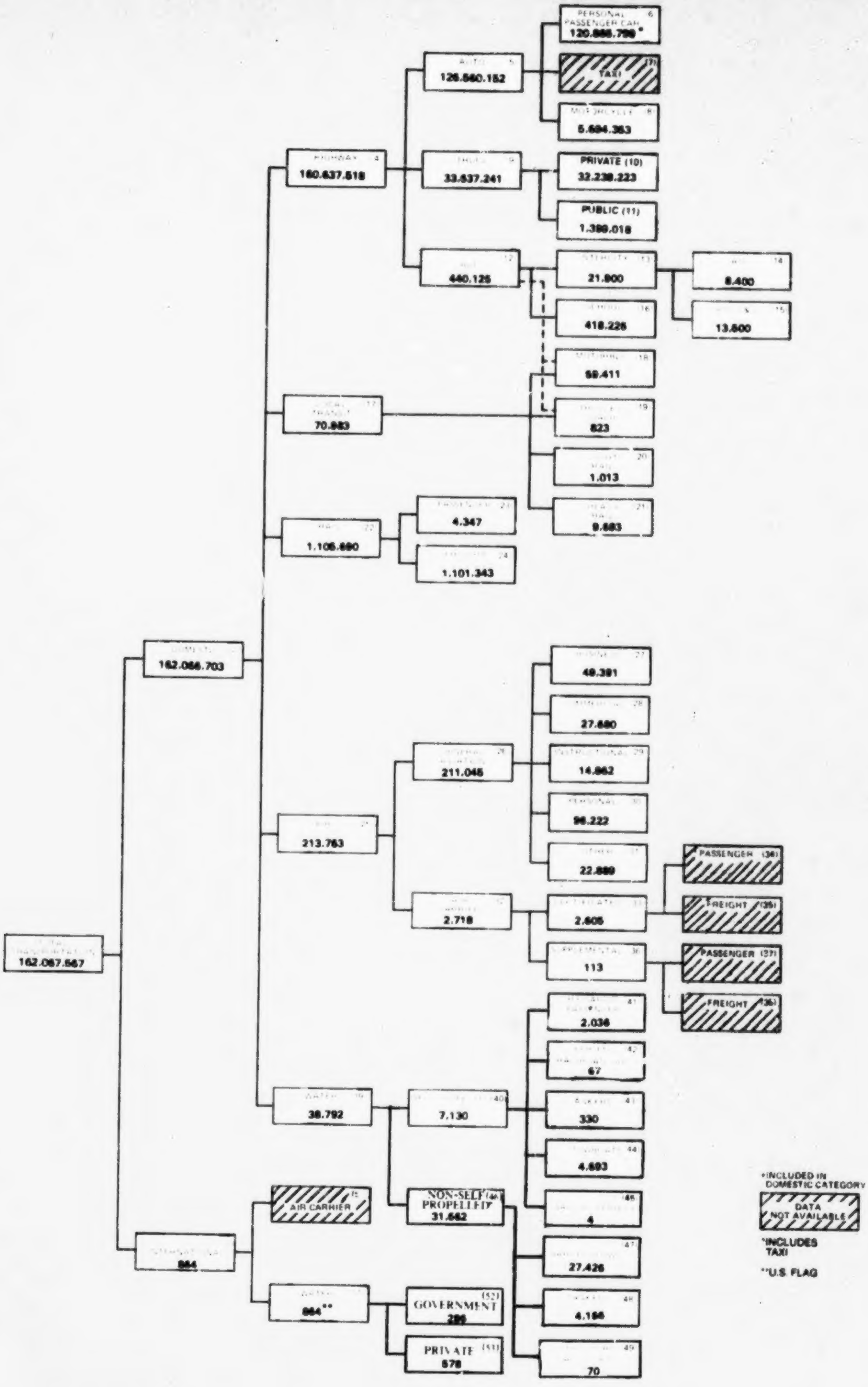
Figure 5. Passenger-Miles (Millions) — 1980

BEST DOCUMENT AVAILABLE


TOTAL TRANSPORTATION (1)
3.081.903
DOMESTIC (2)
2.984.309
HIGHWAY (3)
560.000
TRUCK
560.000
LOCAL (6)
INTERCITY
560.000
ICC REGULATED (8)
NON REGULATED (9)
RAIL (10)
918.958
AIR
4.515
AIR CARRIER
4.515
CERTIFICATED
4.271
SUPPLEMENTAL (22)
244
SCHEDULED
4.218
NON SCHEDULED
44
CIVILIAN (23)
64
MILITARY (24)
180
FREIGHT
3.220
54
U.S. MAIL
942
FOREIGN MAIL
2
CIVILIAN FREIGHT (20)
30
MILITARY FREIGHT (21)
13
WATER (25)
921.836
COASTWISE (26)
631.149
LAKEWISE (27)
61.747
INTERNAL (28)
227.343
LOCAL (29)
1.590
PIPELINE (30)
579.000
ICC REGULATED (31)
486.360
NON REGULATED (32)
92.640
INTERNATIONAL
97.594
AIR CARRIER (33)
3.345
CERTIFICATED (34)
3.254
SUPPLEMENTAL (43)
91
SCHEDULED (35)
2.850
NON SCHEDULED (40)
403
CIVILIAN (44)
86
MILITARY (45)
5
FREIGHT (36)
2.456
AIR EXPRESS (37)
2
U.S. MAIL (38)
371
FOREIGN MAIL (39)
21
CIVILIAN FREIGHT (41)
237
MILITARY FREIGHT (42)
166
WATER (46)
94.249
GREAT LAKES (47)
33.679
COASTAL PORTS (48)
60.570
DATA NOT AVAILABLE

Source: See Appendix A, p 150.

Figure 6. Cargo Ton-Miles (Millions) - 1980



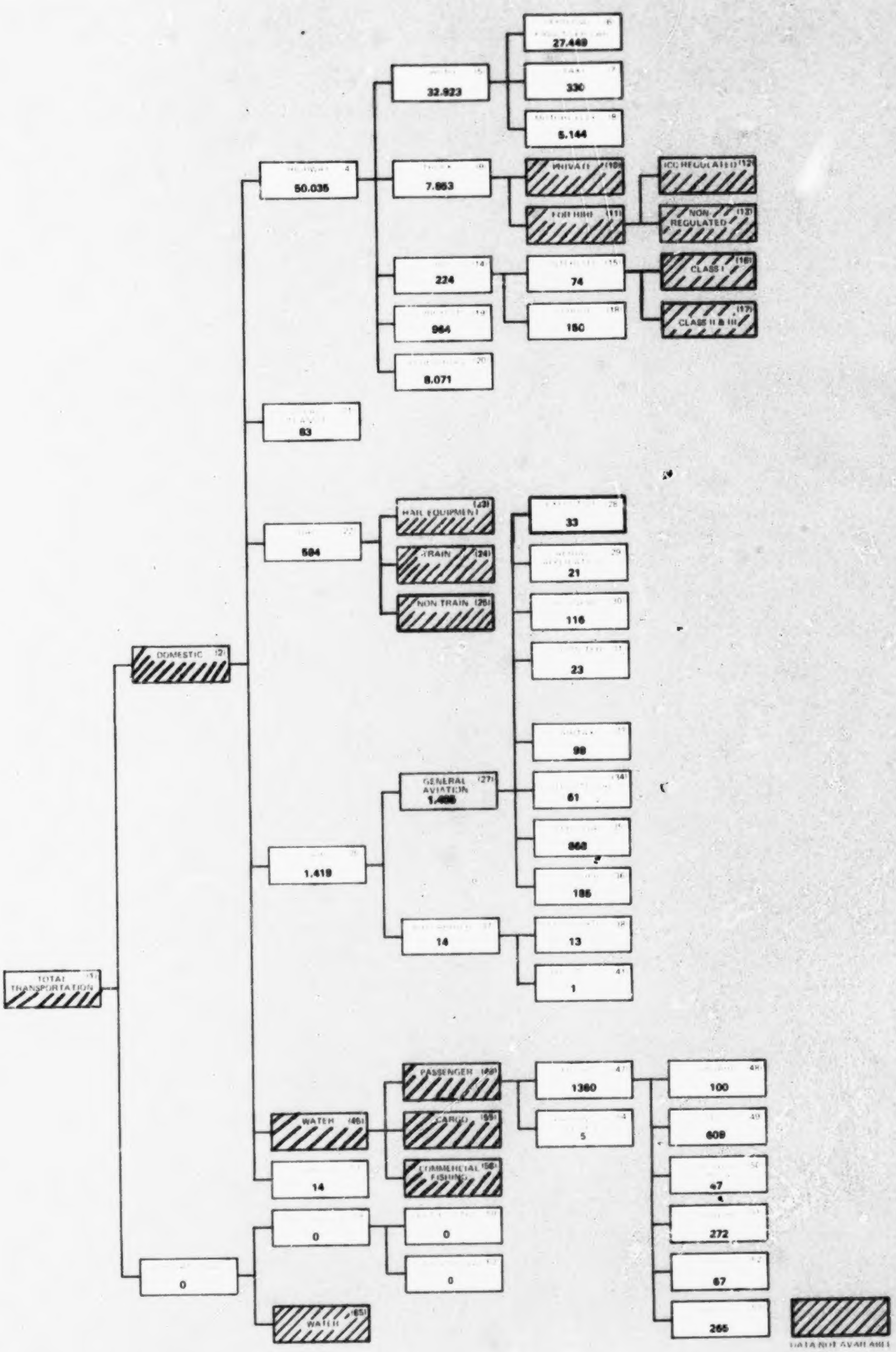
TOTAL TRANSPORTATION
162.087.667
DOMESTIC
162.086.703
HIGHWAY 4
160.637.518
AUTO 5
126.560.152
PERSONAL PASSENGER CAR 6
120.865.798 *
TAXI (7)
MOTORCYCLE (8)
5.694.363
TRUCK 9
33.637.241
PRIVATE (10)
32.238.223
PUBLIC (11)
1.399.018
BUS 12
440.125
INTERCITY (13)
21.900
14
8.400
15
13.500
SCHOOL (16)
418.225
LOCAL TRANSIT 17
70.983
MOTORBUS (18)
59.411
19
823
RAIL 20
1.013
RAIL 21
9.683
RAIL 22
1.105.690
PASSENGER 23
4.347
24
1.101.343
AIR 25
213.763
GENERAL AVIATION 26
211.045
BUSINESS 27
49.391
28
27.680
INSTRUCTIONAL 29
14.862
PERSONAL 30
96.222
OTHER 31
22.880
AIR CARRIER 32
2.718
CERTIFICATED 33
2.605
PASSENGER (34)
FREIGHT (35)
SUPPLEMENTAL 36
113
PASSENGER (37)
FREIGHT (38)
WATER 39
38.792
40
7.130
41
2.036
42
67
43
330
44
4.693
45
4
NON-SELF PROPELLED (46)
31.662
47
27.426
48
4.166
49
70
INTERNATIONAL
864
AIR CARRIER (50)
WATER
864**
GOVERNMENT (52)
286
PRIVATE (51)
578
+INCLUDED IN DOMESTIC CATEGORY
DATA NOT AVAILABLE
*INCLUDES TAXI
**U.S. FLAG

Source: See Appendix A, p. 152.

Figure 7. Number of Vehicles - 1980

BEST DOCUMENT AVAILABLE

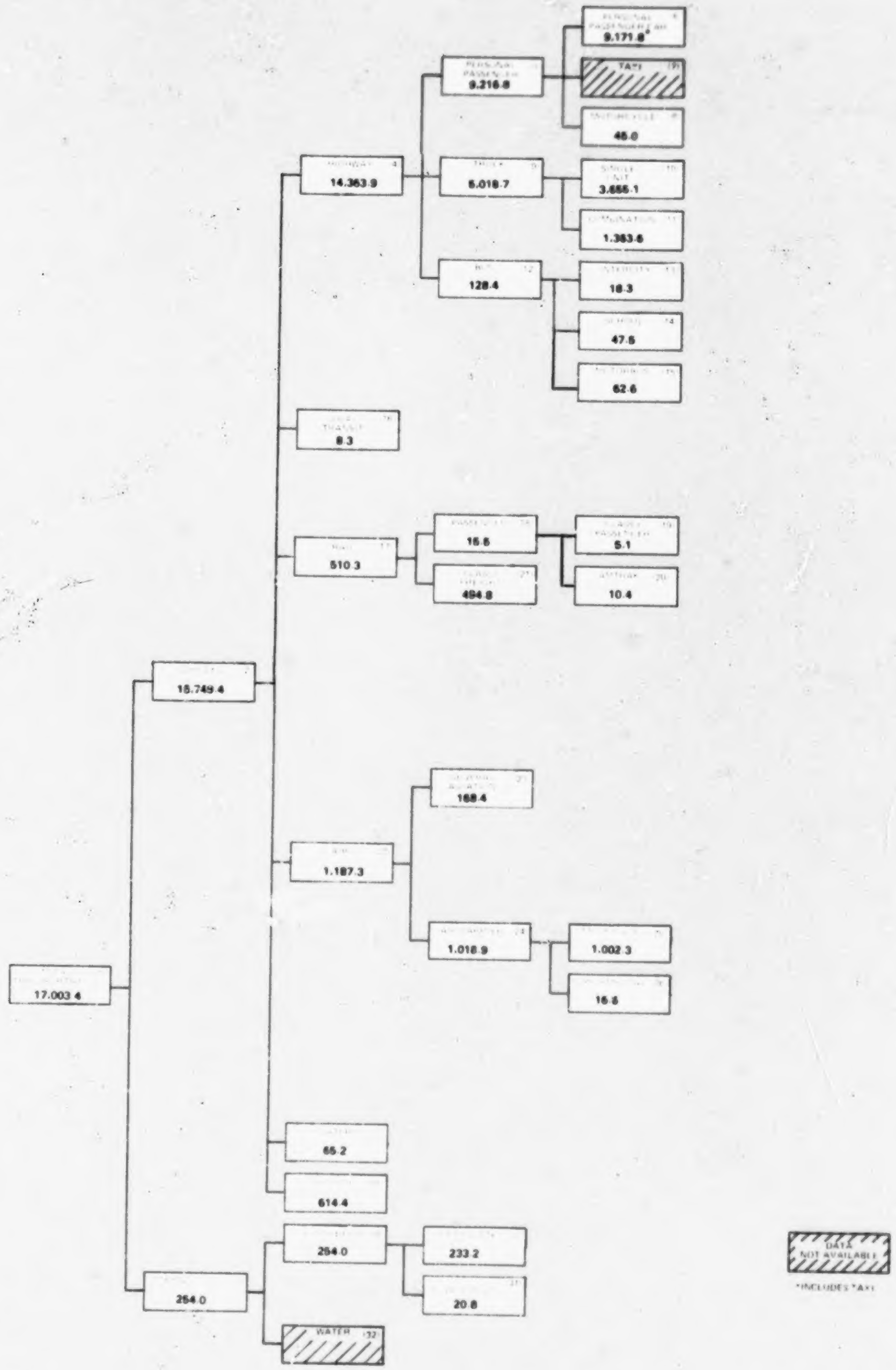
BEST DOCUMENT AVAILABLE


TOTAL TRANSPORTATION (1)
DOMESTIC (2)
HIGHWAY (4)
50,035
32,923
27,449
TAXI
330
5,144
7,863
PRIVATE (10)
FOR HIRE (11)
ICC REGULATED (12)
NON-REGULATED (13)
224
74
CLASS I (16)
CLASS II & III (17)
150
964
8,071
63
584
RAIL EQUIPMENT (23)
TRAIN (24)
NON TRAIN (25)
33
21
116
23
98
61
868
186
GENERAL AVIATION (27)
1,419
14
13
1
WATER (45)
PASSENGER (46)
CARGO (55)
COMMERCIAL FISHING (56)
1360
5
100
609
47
272
67
265
14
0
0
0
0
WATER (65)
DATA NOT AVAILABLE

Source: See Appendix A, p. 155.

Figure 8. Number of Fatalities - 1980

BEST DOCUMENT AVAILABLE



PERSONAL PASSENGER CAR 5
9.171.8*
PERSONAL PASSENGER
9.216.8
TAXI (9)
MOTORCYCLE 8
46.0
HIGHWAY 4
14.363.9
TRUCK 9
5.018.7
SINGLE UNIT 10
3.655.1
COMBINATION 11
1.363.6
BUS 12
128.4
INTERCITY 13
18.3
SCHOOL 14
47.5
MOTORBUS 15
62.6
TRANSIT 16
8.3
RAIL 17
510.3
PASSENGER 18
15.5
CLASS I PASSENGER 19
5.1
AMTRAK 20
10.4
CLASS I FREIGHT 21
494.8
15.749.4
GENERAL AVIATION 22
168.4
1.187.3
AIR CARRIER 24
1.018.9
1.002.3
15.5
17.003.4
65.2
614.4
254.0
233.2
20.8
254.0
WATER (32)
DATA NOT AVAILABLE
*INCLUDES TAXI

Source: See Appendix A, p. 158.

Figure 9. Energy Consumed in Transportation (figures in 10^{12} BTU) - 1980

MODAL PROFILES
1970, 1979 and 1980

MODAL PROFILE SOURCE REFERENCES AND PERCENT CHANGE CALCULATION

Specific source references are obtained as follows: the letter directly to the right of the data element applies to all subsequent data elements in that column until the next letter appears. In some cases, data are shown which may not appear directly in the sources listed. These were obtained by addition/subtraction of referenced data or of other data in its column, and are marked with an asterisk.

Air Carrier Profile

For example: **1979**

11,041.0k ← reference letter k also applies to the two subsequent data elements
504.1
11,545.1
3,056.6m ← reference letter m refers to a different data source

The specific source number and page or table reference may then be found at the end of each modal profile. All sources are listed in Appendix A — Source Information.

The Percent Change 1979- 1980 column refers to the usual percent difference between 1979 data and 1980 data. The average annual percent change 1970- 1980 is equal to C x 100, where C is obtained from the following relationship: $D^{80} = D^{70}(1 + C)^{10}$. (Note D^{70} and D^{80} refer to 1970 and 1980 data, respectively; C is the change; and the relationship is derived from the compound interest formula.)

AIR CARRIER PROFILE

	1970	1979	1980	1970-1980 Average Annual % Change	1979-1980 % Change
I. FINANCIAL					
Operating Revenues ($ millions)					
Certificated carriers, total domestic operations					
Transport revenues	7,066.1a	20,877.4^{r}b	25,468.3b	13.7	22.0
Nontransport Revenues	114.0	774.7	886.9	22.8	14.5
Total operating revenues	7,180.2	21,652.4^{r}	26,375.7	13.9	21.8
Certificated carriers, total international operations					
Transport revenues	2,079.4c	5,327.3d	6,626.9d	12.3	24.4
Nontransport revenues	30.1	247.3	264.1	24.3	6.8
Total operating revenues	2,109.5	5,574.6	6,891.0	12.6	23.6
Supplemental carriers, domestic plus international operations					
Transport revenues	330.7j	538.3e	771.0e	8.8	43.2
Nontransport revenues	6.5	23.6	17.1	10.2	-27.5
Total operating revenues	337.2	561.9	787.8	8.9	40.2
Operating Expenses ($ millions)					
Certificated carriers, domestic operations	7,181.0a	21,523b	26,382.5b	13.9	22.6
Certificated carriers, international operations	2,065.6c	5,505.4d	7,079.3d	13.1	28.6
Supplemental carriers, domestic plus international operations	330.7j	559.7e	779.1e	9.0	39.2
II. INVENTORY					
Number of carriers					
Domestic and internationall	39f	52g	63g	4.9	21.2
Number of Aircraft Available for Service					
Domestic and International					
Certificated, all services	2,564m	2,478m	2,605m	0.2	5.1
Supplemental	195	120	113	-5.3	-5.8
Number of Employees					
Domestic and international					
Certificated, all services	299,875k	339,022	355,833	1.7	5.0
Supplemental	4,815	n/a	n/a	-	-
III. PERFORMANCE					
Aircraft Revenue-Miles (millions)					
Domestic					
Certificated, all services	2,067.6n*	2,471.4q*	2,500.0q*	1.9	1.2
Scheduled services	2,027.5	2,435.4	2,470.3	2.0	1.4
Nonscheduled service	40.1	36.0	29.7	-3.0	-17.5
Supplemental	34.0h	22.8s	21.9s	-4.3	-3.9
International					
Certificated, all services	474.6t*	387.7u*	369.5u*	-2.5	-4.7
Scheduled service	390.6	355.7	343.5	-1.3	-3.4
Nonscheduled service	84.0	32.0	26.0	-11.1	-18.7
Supplemental	58.9h	38.7s	28.8s	-6.9	-25.6
Total	2,635.1	2,920.6	2,920.8	1.0	0.0

AIR CARRIER PROFILE (Cont.)

	1970	1979	1980	1970-1980 Average Annual % Change	1979-1980 % Change
Aircraft Revenue-Hours (thousands)					
Domestic					
Certificated, all services	5,133.2n*	6,090.3q*	6,165.4q*	1.9	1.2
Scheduled service	5,035.2	5,991.1	6,088.9	1.9	1.6
Nonscheduled service	98.0	99.2	76.5	-2.5	-22.9
Supplemental	94.3h	71.8	69.9s	-3.0	-2.6
International					
Certificated, all services	977.3t*	788.6u*	693.0u*	-3.4	-12.1
Scheduled service	811.0	722.0	639.5	-2.4	-11.4
Nonscheduled service	166.3	66.6	53.5	-10.7	-19.7
Supplemental	122.9h	84.0s	66.4s	-6.0	-21.0
Total	6,327.7	7,034.7*	6,994.7*	1.0	-0.6
Revenue Passenger-Miles (Millions)					
Domestic					
Certificated, all services	108,442.0n*	212,701.0q	203,177.2q	6.5	-4.5
Scheduled service	104,146.8	208,890.9	200,086.6	6.8	-4.2
Nonscheduled service	4,295.2	3,810.1	3,090.6	-3.2	-18.9
Supplemental	1,056.8h	870.7s	432.7s	-8.5	-50.3
International					
Certificated, all services	39,695.4t*	57,017.9u	57,238.9u	3.7	0.4
Scheduled service	27,563.2	53,132.5	54,093.4	7.0	1.8
Nonscheduled service	12,132.2	3,885.4	3,145.4	-12.6	-19.0
Supplemental	9,232.0h	7,719.7s	5,663.9s	-4.8	-26.6
Total	158,426.2*	278,309.3*	266,572.6*	5.3	-4.2
Revenue Passenger Enplanements (millions)					
Domestic					
Certificated, all services	n/a	295.2q*	274.9q*	-	-6.9
Scheduled service	153.7n	292.7	272.8	5.9	-6.8
Nonscheduled service	n/a	2.5	2.1	-	-16.0
International					
Certificated, all services	n/a	25.4u*	24.9u*	-	-2.0
Scheduled service	16.3t	24.2	24.0	3.9	-0.8
Nonscheduled service	n/a	1.2	0.9	-	-25.0
Total	n/a	320.6*	299.8*	-	-6.5
Revenue Passenger Load Factor (%)					
Domestic					
Certificated scheduled service	48.9n	62.8q	58.0q	1.7	-7.6
International					
Certificated scheduled service	53.0t	63.8u	62.8u	1.7	-1.6
Total	49.7v	63.0w	59.0w	1.7	-6.4
Revenue Ton-Miles of Freight (millions)					
Domestic	2,474.7n*	3,738.4q*	3,508.5q*	3.6	-6.1
Certificated, all services	2,189.3	3,498.9*	3,264.1*	4.1	-6.7
Scheduled service	2,109.5	3,410.8	3,220.4	4.3	-5.6
Nonscheduled service	79.8	88.1*	43.7*	-5.8	-50.4
Supplemental	285.4h	239.5s	244.4s	-1.5	2.1
International	1,672.1t*	2,892.0u*	2,950.4u*	5.8	2.0
Certificated, all services	1,566.1	2,800.1*	2,859.2*	6.2	2.1
Scheduled service	1,298.1	2,496.9	2,456.2	6.6	-1.6
Nonscheduled service	268.0	303.2*	403.0*	4.2	32.9
Supplemental	106.0h	91.9s	91.2s	-1.5	-0.8
Total	4,146.8*	6,630.4*	6,458.9*	4.5	-2.6

AIR CARRIER PROFILE (Cont.)

	1970	*1979*	*1980*	1970-1980 Average Annual % Change	1979-1980 % Change
Average Overall Airborne Speed (mph)					
Domestic					
Certificated, scheduled service	403x	406g	406g	0.1	0.0
International					
Certificated, scheduled service	482	493	495	0.3	0.4
Average Length of Freight Haul, Domestic Commerce Scheduled Service (statute miles)	1,014y	1,514m	n/a	-	-
Average On-Flight Passenger Trip Length (miles)	775.1v	826.8w	856.5w	1.0	3.6
Domestic					
Certificated, scheduled service	677.7n	713.6q	736.1q	0.8	3.2
International					
Certificated, scheduled service	1,695.1t	2,198.5u	2,258.0	2.9	2.7
Total U.S. Air Carrier Accidents[1]	55z	32z	20z	-9.6	-37.5
Certificated route and supplemental carriers	55	27	19	-10.1	-29.6
Certificated route (all operations including cargo)	49	26	16	-10.6	-38.5
Scheduled passenger service	39	18	14	-9.7	-22.2
Domestic	32	14	8	-12.9	-42.9
International	7	4	6	-1.5	50.0
Supplemental air carriers (all operations)	6	1	3	-6.7	200.0
Passenger service (civil and military)	2	0	0	-100.0	0.0
Total U.S. Air Carrier Fatalities[1]	146	355	14	-20.9	-96.1
Certificated route and supplemental carriers	146	355	14	-20.9	-96.1
Certificated route (all operations) including cargo)	85	352	13	-17.1	-96.3
Scheduled passenger service	3	352	13	15.8	-96.3
Domestic	1	279	13	29.2	-95.3
International	2	73	0	-100.0	-100.0
Supplemental air carriers (all operations including cargo)	61	3	1	-33.7	-66.7
Passenger service (civil and military)	47	0	0	-100.0	0.0

n/a = not available, r = revised

[1] Includes certificated route, supplemental and, beginning in 1975, commercial operators of large aircraft (greater than 12,500 pounds base gross weight).

*Figure obtained by addition/subtraction and may not appear directly in data source.

Source: The following data references are listed in Appendix A, p. 174.

Source	Reference Number/Location	Source	Reference Number/Location	Source	Reference Number/Location
a	16) p. 216	j	16) p. 310	v	16) p. 105
b	14) p. 2	k	16) p. 63	w	15) p. 1
c	16) p. 227	m	13) personal communication	x	16) p. 62
d	14) p. 7	n	16) p. 108	y	26) p. 14
e	14) p. 103	q	15) p. 5	z	24) Tables 2-4, 6-10
f	16) p. 9	s	15) p. 151		
g	37) p. 641	t	16) p. 117		
h	16) p. 197	u	15) p. 15		

GENERAL AVIATION PROFILE

	1970	1979	1980	1970-1980 Average Annual % Change	1979-1980 % Change
I. FINANCIAL					
Expenditures ($ millions)					
Total	2,629a	6,836^{r}a	7,619a	11.2	11.5
Aircraft	354	2,085	2,306	20.6	10.6
Operating Costs	2,275	4,751^{r}	5,313	8.9	11.8
II. INVENTORY					
Number of Active Aircraft					
Business	n/a	49,658h	49,391h	-	-0.5
Commercial	n/a	28,664	27,680	-	-3.4
Instructional	n/a	15,456	14,862	-	-3.8
Personal	n/a	94,427	96,222	-	1.9
Other	n/a	22,134	22,889	-	3.4
Total	131,743c	210,339	211,045	4.8	0.3
III. PERFORMANCE					
Number of Miles Flown (millions)					
Total	3,207.1m	5,470.5m	5,203.8m	5.0	-4.9
Number of Hours Flown (millions)					
Personal	6.9e	9.5j	8.9j	2.6	-6.3
Business	7.2	9.0	8.4	1.6	-6.7
Air Taxi	n/a	4.6	4.5	-	-2.2
Instructional	6.8	6.5	5.7	-1.8	-12.3
Executive	n/a	5.0	5.3	-	6.0
Rental	n/a	4.2	3.9	-	-7.1
Industrial Special	n/a	1.1	1.1	-	0.0
Aerial Application	n/a	2.4	2.0	-	-16.7
Other	0.6	1.1	1.0	5.2	-9.1
Total	26.0	43.3	41.0	4.7	-5.3
Number of Fatalities					
Instructional	93f	81n	61n	-4.1	-24.7
Personal	726	820	868	1.8	5.9
Business	148	169	116	-2.4	-31.4
Executive	28	27	33	1.7	22.2
Aerial Application	41	29	21	-6.5	-27.6
Air Taxi	100	70	98	-0.2	40.0
Commuter	n/a	43	23	-	-46.5
Other	174	120	185	0.6	54.2
Total	1,310	1,359	1,405	0.7	3.4
Accidents					
Fatal	641b	682b	677b	0.6	-0.7
Total	4,712	4,051	3,799	-2.1	-6.2
Accident Rate per 100,000 Aircraft Hours Flown					
Fatal	2.5	1.6	1.6	-4.4	0.0
Total	18.1	9.3	9.2	-6.5	-1.1
Accident Rate per Million Aircraft Miles Flown					
Fatal	0.2m	0.1m	0.1m	-6.7	0.0
Total	1.5	0.7	0.7	-7.3	0.0

n/a = not available, r = revised

The following date references are listed in Appendix A, p. 174.

Source	Reference Number/Location	Source	Reference Number/Location	Source	Reference Number/Location
a	27) p. 5	e	44) Table 9.9	j	45) Table 2-4
b	54) Charts 17/18/19	f	23) Personal communication	k	45) Table 2-9
c	44) Tables 8.3/8.6	g	54) Charts 25/26/27/28	m	24) Table 13
d	44) Table 8.2	h	45) Table 2-9	n	46) Personal communication

HIGHWAY PROFILE

	1970	1979	1980	1970- 1980 Average Annual % Change	1979- 1980 % Change
I. FINANCIAL					
Government Expenditures ($ millions)					
Federal					
Highway Trust Fund	88a	322b	375b	15.6	16.5
Other	260	648^r	576	8.3	-11.1
Total Federal	348	970^r	951	10.6	-2.0
State and local					
State and D.C.	14,100	23,096	25,936	6.3	12.3
Local	6,242	13,378*	14,168*	8.5	5.9
Total State and local	20,342	36,474	40,104	7.0	10.0
Total	20,773	37,444^r	41,055	7.1	9.6
II. INVENTORY **					
Rural Mileage					
Under State Control					
State primary system	408,262c	404,734c	418,129d	0.2	3.3
State secondary roads	272,700	260,580	259,384	-0.5	-0.5
Other State roads	26,040	32,507	24,333	-0.7	-25.1
Total	707,002	697,821	701,846	-0.1	0.6
Under local control					
County roads	1,732,981	1,730,971	1,686,693	-0.3	-2.6
Town and township roads	510,174	520,079	507,856	-0.1	-2.4
Other local roads	31,559	30,303	75,221	9.1	148.2
Total	2,274,714	2,281,353	2,269,770	0.0	-0.5
Under Federal Control	187,696	244,371	262,010	3.4	7.2
Municipal Mileage					
Under State control					
Extensions of State primary system	57,262	66,369	58,428	0.2	-12.0
Extensions of State secondary roads	16,841	20,024	20,697	2.1	3.3
Other State roads	n/a	n/a	234	-	-
Total	74,103	86,393	79,359	0.7	-8.1
Under local control					
Local city street	486,567	607,881	543,120	1.1	-10.7
Total municipal mileage	560,670	694,274	624,053	1.1	-10.1
Total Rural and Municipal Mileage	3,730,082	3,917,819	3,955,387	0.6	1.0

*Figure obtained by addition/subtraction and may not appear directly in data source.

** 1980 now based on merged Highway Performance Monitoring System (HPMS) data & vary from previous years.

r=revised

n/a=not available

Source: The following data references are listed in Appendix A, p. 175.

Source	Reference Number/Location
a	46) Table HF-10
b	48) Table HF-11, supplement sheet
c	46) Table M-1
d	46) Table HM-10

AUTOMOBILE PROFILE

		1970	1979	1980	1970-1980 Average Annual % Change	1979-1980 % Change
I.	**FINANCIAL**					
	Expenditures ($ millions)					
	New and used cars	32,668a*	78,593b*	70,752b*	8.0	-10.0
	Tires, tubes, accessories and parts	5,396	16,860	19,178	13.5	13.8
	Gasoline and oil	29,329	68,371	89,018	11.7	30.2
	Tolls	756	982	946	2.3	-3.7
	Insurance premiums less claims paid	4,335	8,782	10,019	8.7	14.1
	Auto registration fees	1,668c	2,796c	2,892c	5.7	3.4
	Driver's license fees	222	332	370	5.2	11.4
	Repair, greasing, washing, parking, storage, rental	13,233a	32,186b	34,371b	10.0	6.8
	Total	92,270	208,902*	228,446*	9.5	9.4
	Expenditures ($ millions)					
	Taxi	1,411	2,453	2,822	7.2	15.0
II.	**INVENTORY**					
	Number of Vehicle Registrations					
	Passenger cars and taxis	89,243,557e	119,435,556f	120,865,799f	3.1	1.2
	Motorcycles	2,824,098d	5,473,078	5,694,353	7.3	4.0
	Motor Vehicle Licensed Drivers (thousands)	111,543s	143,284t	145,299t	2.7	1.4
	Number of Employees					
	Taxis	106,400g	64,400i	58,500i	-5.8	-9.2
III.	**PERFORMANCE**					
	Vehicle-Miles (millions)[1]					
	Urban Streets	494,543j	684,396j	670,681j	3.1	-2.0
	Main rural roads	307,047	405,704	390,081	2.4	-3.9
	Local rural roads	99,402	72,428	69,125	-3.6	-4.6
	Total travel	900,992	1,162,528	1,129,887	2.3	-2.8
	Vehicle-Miles (millions)					
	Motorcycles	10,148	22,010	18,000	5.9	-18.2
	Passenger car and taxis	890,844	1,140,518	1,111,887	2.2	-0.6
	Total	900,792	1,162,528	1,129,887	2.3	-2.5
	Passenger-Miles (millions)					
	Total travel, passenger cars and taxis[2]	1,959,857	2,623,191	2,557,340	2.7	-2.5
	Total travel, motorcycles[3]	11,163	24,211	19,800	5.9	-18.2
	Average Miles Travelled per Vehicle					
	Motorcycles	3,605	4,000	3,144	-1.4	-21.4
	Passenger cars and taxis	9,978	9,485	9,135	-0.9	-3.7
	Total	9,783	9,245	8,865	-1.0	-4.1
	Number of Vehicles in All Accidents					
	Motorcycles	n/a	450,000n	510,000n	-	13.3
	Passenger cars	n/a	22,900,000	22,800,000	-	-0.4
	Taxis	n/a	220,000	230,000	-	4.5
	Number of Vehicles in Fatal Accidents					
	Motorcycles	n/a	4,916h	5,194h	-	5.7
	Passenger cars	n/a	39,999	39,059	-	-2.4
	Taxis	n/a	400n	500n	-	25.0

AUTOMOBILE PROFILE (Cont.)

	1970	1979	1980	1970-1980 Average Annual % Change	1979-1980 % Change
Number of Occupant + Non Occupant Fatalities					
Motor Vehicles	52,627m	51,093k	51,091m	-0.3	0.0
Passenger cars	34,480n	27,799	27,443k	-2.3	-1.3
Taxis	n/a	270n	330n	-	22.2
Motorcycles	2,280m	4,894k	5,143k	8.5	5.1
Bicycles[4]	760	932	965	2.4	3.5
Pedestrians[4]	8,950	8,096	8,070	-1.0	-0.3
Fatalities in Vehicular Accidents[5]					
Passenger car	n/a	36,752[r]h	36,373h	-	-1.0
Motorcycle	n/a	5,041[r]	5,339	-	5.9
Occupant Fatality Rate					
Per 100 million vehicle-miles					
Passenger car	3.87h	2.44	2.47	-4.4	1.2
Motorcycle	22.47	22.24	28.58	2.4	28.5
Per 10,000 registered vehicles					
Passenger car	3.86	2.35	2.26	-5.2	-3.8
Motorcycles	8.07	9.03[r]	8.99	1.1	-0.4
Vehicle Involvement Rate					
Per 100 million vehicle-miles					
Passenger car	5.60	3.51[r]	3.51	-4.6	0.0
Motorcycle	22.86	22.34	28.86	2.4	29.2
Per 10,000 registered vehicles					
Passenger car	5.59	3.38[r]	3.21	-5.4	-5.0
Motorcycle	8.22	8.93	9.07	1.0	1.6

n/a = not available, r = revised

*Figure obtained by addition/subtraction and may not appear directly in data source.

[1] Includes passenger cars, taxis, and motorcycles.
[2] Derived by multiplying passenger car and taxi vehicle-miles by an average occupancy rate of 2.2 (as of 1978 = 2.3)
[3] Derived by multiplying motorcycle vehicle-miles by an average occupancy rate of 1.1.
[4] Involvement only with motor vehicle.
[5] Includes all fatalities in the accident in which the vehicle types listed were involved.

Source: The following data references are listed in Appendix A, p. 174.

Source	Reference Number/Location	Source	Reference Number/Location	Source	Reference Number/Location
a	26) p. 5	g	42) p. 711	m	52) Table A-18
b	35) Table 2.4, p. 22	h	53) Personal communication	n	22) p. 56
c	46) Table MV-2	i	43) Table B-2	q	52) Table A-5
d	48) Table MV-201	j	46) Table VM-1	s	47) Table DL-201
e	48) Table MV-200	k	54) Table 4	t	46) Table DL-1
f	46) Table MV-1				

BUS PROFILE

		1970	1979	1980	1970-1980 Average Annual % Change	1979-1980 % Change
I.	**FINANCIAL**					
	Expenditures ($ millions)					
	School bus	1,219a	3,196[r]a	3,484a	11.1	9.0
	Operating Revenues ($ millions)					
	Intercity bus, total	901.4[r]b	1,654.8[r]b	1,946.5[p]b	8.0	17.6
	Intercity bus, Class I*	721.7	1,205.2	1,393.9[p]	6.8	15.7
	Operating Expenses ($ millions)					
	Intercity bus, total	812.2	1,564.6[r]	1,813.0[p]	8.4	15.9
	Intercity bus, Class I*	639.0	1,147.0	1,312.8[p]	7.5	14.5
	Taxes Assignable to Operations ($ millions)[1]					
	Intercity bus, total	76.7	101.2[r]	112.6[p]	3.9	11.3
	Intercity bus, Class I*	60.3	75.2	82.8[p]	3.2	10.1
II.	**INVENTORY**					
	Number of Operating Companies					
	Intercity bus, total	1,000	1,200[r]	1,330	2.9	10.8
	Intercity bus, Class I*	71	46	46	-4.3	0.0
	Number of Vehicles					
	Intercity bus, total	22,000	20,680[r]	21,900[p]	-0.1	5.9
	School bus	288,750d	411,313d	418,225d	3.8	1.7
	Intercity bus, Class I*	10,158b	8,330[r]b	8,400b	-1.9	0.8
	Number of Employees of Operating Companies					
	Intercity bus, total	49,500	47,000[r]	49,600[p]	0.0	5.5
	Intercity bus, Class I*	34,383	29,978	31,190	1.0	4.0
	Miles of Highway Served					
	Intercity bus, total	267,000	280,000	280,000[p]	0.5	0.0
	Intercity bus, Class I*	194,000	195,000	194,000	0.0	-0.5
III.	**PERFORMANCE**					
	Vehicle Miles (millions)					
	Commercial bus[2]					
	Urban streets	1,810g	1,935g	2,235g	2.1	15.5
	Main rural roads	939	1,100	1,175	2.3	6.8
	Local rural roads	194	90	90	-7.4	0.0
	Total travel	2,943	3,125	3,500	1.8	12.0
	School and nonrevenue bus					
	Urban streets	414	923	865	7.7	-6.3
	Main rural roads	784	1,411	1,425	6.2	1.0
	Local rural roads	962	646	610	-4.5	-5.6
	Total travel	2,160	2,980	2,900	3.0	-2.7
	All buses					
	Urban streets	2,224	2,858	3,100	3.4	8.5
	Main rural roads	1,723	2,511	2,600	4.2	3.5
	Local rural roads	1,096	736	700	-4.4	-4.9
	Total travel	5,043	6,105	6,400	2.4	4.8
	Revenue Passenger-Miles (millions)					
	Intercity bus, total	25,300b	27,200b	27,700[p]b	0.9	1.8
	Intercity bus, Class I*	17,900	17,300	17,300	-0.3	0.0
	Number of Revenue Passengers (millions)					
	Intercity bus, total	401	359[r]	373[p]	-0.7	3.9
	Intercity bus, Class I*	174	133.0	134.2[p]	-2.6	0.9

BUS PROFILE (Cont.)

	1970	1979	1980	1970-1980 Average Annual % Change	1979-1980 % Change
Average Passenger Trip Length (Miles)[3]					
Intercity bus, total	63.2b	75.8^{r}b	74.3^{p}b	1.6	-2.0
Intercity bus, Class I*	102.9	130.1^{r}	128.9^{p}	2.3	-0.9
Average Miles Travelled per Vehicle					
Commercial	32,591g	29,691g	32,765g	0.1	10.4
School and Nonrevenue Bus	7,274	7,179	7,592	0.4	5.8
All buses	13,306	11,732	12,103	-0.9	3.2
Average Passenger Load Factor (%)					
Intercity bus, Class I*	46.0f	48.5f	47.0e	0.2	-3.1
Number of Fatalities					
School bus related — total	n/a	205h	150h	-	-26.8
School bus occupants	n/a	18	9	-	-50.0
Other vehicle occupants	n/a	103	88	-	- 14.6
Non-occupants	n/a	84	53	-	-36.9
Occupant Fatalities					
All buses	n/a	39	46	-	18.0
Fatalities in Vehicular Accidents[4]					
All buses	n/a	376	390	-	3.7
Occupant Fatality Rate					
Per 100 million vehicle-miles					
All buses	n/a	0.64	0.72	-	12.5
Per 10,000 registered vehicles					
All buses	n/a	0.75	0.87	-	16.0
Vehicle Involvement Rate					
Per 100 million vehicle-miles					
All buses	n/a	5.68	5.16	-	-9.2
Per 10,000 registered vehicles					
All buses	n/a	6.67	6.24	-	-6.5

n/a = not available, p = preliminary, r = revised

[1] Excludes income taxes.

[2] Includes local transit buses. See "Local Transit Profile" for more detailed information on urban bus transportation.

[3] Calculated by dividing revenue passenger-miles by revenue passengers carried.

[4] Includes all fatalities in the accident in which the vehicle types listed were involved.

*Effective January 1, 1977, the average annual gross revenue requirement for Class I carriers were increased to $4 million.

Source: The following data references are listed in Appendix A, p. 174.

Source	Reference Number/Location
a	27) p. 5
b	1) p. 3, 5
d	46) Table MV-10
e	1) p. 11
f	26) p. 15
g	46) Table VM-1
h	53) Personal communication

TRUCK PROFILE

	1970	1979	1980	1970-1980 Average Annual % Change	1979-1980 % Change
I. FINANCIAL					
Revenues ($ millions)					
Local	28,819a	52,281[r]a	58,155a	7.3	11.2
Intercity					
ICC-regulated	14,585	41,200	43,000	11.4	4.4
Non-ICC-regulated	18,968	46,963	47,384	9.6	-3.2
Operating Revenues of Class I Intercity Motor Carriers (millions)					
Freight, intercity, common carriers	10,147b	26,638c	26,691[p]c	10.2	0.2
Freight, intercity, contract carriers	332	939	1,139[p]	13.1	21.3
Freight, local cartage	458	337	340[p]	-2.9	0.9
Trans. for other Classes I and II carriers	91	246	187[p]	7.5	-24.0
Others	108	1,698	1,981[p]	33.8	16.7
Total	11,137	29,858	30,338[p]	10.5	1.6
Operating Expenses of Class I Intercity Motor Carriers ($ millions)	10,763d	28,788	29,012[p]	10.4	0.8
II. INVENTORY					
Number of Truck Registrations					
Private and commercial	17,789,980e	31,991,750e	32,238,223e	6.1	0.8
Federal	142,498f	213,295f	209,101f	3.9	-2.0
State, county, municipal	815,943	1,144,697	1,189,917	3.9	4.0
Total	18,748,421e	33,349,742e	33,637,241e	6.0	0.9
Total Number of Employees					
Trucking and Trucking Terminals	998,500i	1,248,800[r]j	1,186,500j	1.7	-5.0
Number of Companies, Class I Intercity Carriers of Property	1,376b	872c	835c	-4.9	-4.2
Number of Employees, Class I Intercity Carriers of Property	500,445d	554,811	471,458[p]	-0.6	-15.0
III. PERFORMANCE					
Vehicle-Miles (millions)					
Urban streets	80,606k	171,800k	173,350k	8.0	0.9
Main rural roads	103,823	176,750*	197,270*	6.6	11.6
Local rural roads	30,241	11,950	13,950	-7.4	16.7
Total travel	214,670	360,500	384,570	6.0	6.7
Average Miles Travelled per Vehicle					
Single-unit trucks	9,807	9,184	10,070	0.3	9.6
Combination trucks	41,903	49,664	42,705	0.2	-14.0
All trucks	11,450	10,810	11,433	0.0	5.8
Ton-Miles (millions)					
Intercity	412,000n	608,000[r]n	560,000n	3.1	-7.9
Taxes Assignable to Operations ($ millions)					
State highway-user taxes	3,429u	6,617u	6,731u	7.0	1.7
Federal highway-user taxes	2,202	3,532	3,157	3.7	-10.6
Total highway-user taxes	5,632	10,149	9,888	5.8	-2.6
Average Length of Haul (miles)					
Class I Intercity motor carriers					
Common	263s	n/a	n/a	-	-

TRUCK PROFILE (Cont.)

	1970	1979	1980	1970-1980 Average Annual % Change	1979-1980 % Change
Total Fatalities	n/a	3,072g	2,528^{pt}	-	-17.7
Private	n/a	792	611	-	-22.9
Authorized	n/a	2,212	1,855	-	-16.1
Exempt	n/a	60	45	-	-25.0
Others	n/a	8	7	-	-12.5
Unknown	n/a	n/a	10	-	-
Total Accidents	n/a	32,126	27,147^{p}	-	-15.5
Private	n/a	6,227	5,399	-	-13.3
Authorized	n/a	25,529	21,486	-	-15.8
Exempt	n/a	295	171	-	-42.0
Others	n/a	75	49	-	-34.7
Unknown	n/a	n/a	42	-	-
Total Injuries	n/a	35,541	31,391^{p}	-	-11.7
Private	n/a	6,872	6,313	-	-8.1
Authorized	n/a	28,206	24,721	-	-12.4
Exempt	n/a	404	286	-	-29.2
Others	n/a	59	32	-	-45.8
Unknown	n/a	n/a	39	-	-
Property Damage ($ millions)	n/a	346.3	311.2^{p}	-	-10.1
Private	n/a	76.3	69.8	-	-8.5
Authorized	n/a	263.5	236.5	-	-10.2
Exempt	n/a	6.1	4.1	-	-32.8
Others	n/a	0.4	0.3	-	-25.0
Unknown	n/a	n/a	0.5	-	-
Occupant Fatalities					
All Trucks — Total	5,300h	7,944h	7,853h	4.0	-1.2
Light Trucks	n/a	6,455	6,566	-	1.7
Heavy Trucks	n/a	1,087	976	-	-10.2
Other Trucks	n/a	402	311	-	-22.6
Fatalities in Vehicular Accidents[1]					
Light Trucks	n/a	12,420	12,400	-	-0.2
Heavy Trucks	n/a	5,480	4,821	-	-12.0
Other Trucks	n/a	1,511	1,313	-	-13.1
Occupant Fatality Rate					
Per 100 million vehicle-miles					
Total Truck	2.47h	2.20	2.04	-1.9	-7.3
Single-unit	n/a	2.37	2.16	-	-8.9
Combination	n/a	1.46	1.42	-	-2.7
Per 10,000 registered vehicles					
Total Truck	2.82h	2.38	2.33	-1.7	-2.1
Single-unit	n/a	2.18	2.17	-	-0.5
Combination	n/a	7.23^{r}	6.07	-	-16.0
Vehicle Involvement Rate					
Per 100 million vehicle-miles					
Total	n/a	4.92	4.40	-	-10.6
Single-unit	n/a	4.55	4.06	-	-10.8
Combination	n/a	6.58	6.25	-	-5.0
Per 10,000 registered vehicles					
Total Truck	n/a	5.32	5.03	-	-5.5
Single-unit	n/a	4.18	4.09	-	-2.2
Combination	n/a	32.70	26.68	-	-18.4

p = preliminary, r = revised, n/a = not available.

[1] Includes all fatalities in the accident in which the vehicle types listed were involved.

Source: The following data references are listed in Appendix A, p. 174.

Source	References Number/Location	Source	Reference Number/Location
a	27) p. 2	i	42) p. 714
b	18) p. 141, Table 18	j	43) p. 252
c	20) Table 6	k	46) Table VM-1
d	18) p. 142, Table 19	n	27) p. 8
e	46) Table MV-1	q	20) Personal communication
f	46) Table MV-9	s	26) p. 14
g	49) p. 1, 2, 3, 4	t	49) Personal communication
h	53) Personal communication	u	5) p. 3

LOCAL TRANSIT PROFILE

	1970	1979	1980	1970- 1980 Average Annual % Change	1979- 1980 % Change
I. FINANCIAL					
Passenger Revenue ($ millions)					
Motorbus	1,193.6a	1,713.8^{r}a	1,791.1a	4.2	4.5
Subway and elevated - heavy rail	368.5	675.9^{r}	717.4	6.9	6.1
Surface rail - light rail	46.6	27.9	30.7	-4.1	10.0
Trolley coach	30.4	15.7^{r}	26.0	-1.6	65.6
Total +	1,639.1	2,436.3^{r}	2,568.2^{p}	4.6	5.4
Operating Revenue ($ millions)					
Motorbus	1,236.3c	1,781.8^{r}c	1,898.9c	4.4	6.6
Subway and elevated - heavy rail	384.4	694.6^{r}	735.3	6.7	5.9
Surface rail - light rail	55.2	28.9	31.8	-5.4	10.0
Trolley coach	31.5	15.9^{r}	26.5	-1.7	66.7
Total +	1,707.4	2,524.2^{r}	2,695.6^{p}	4.7	6.8
II. INVENTORY					
Number of Systems					
Motorbus	n/a	1,024b	1,022b	-	-0.2
Heavy rail only	n/a	11	11	-	0.0
Light rail only	n/a	9	9	-	0.0
Other*	n/a	13	13	-	0.0
Total	n/a	1,057	1,055	-	-0.2
Number of Vehicles					
Motorbus	49,700d	54,490d	59,411d	1.8	9.0
Subway and elevated - heavy rail	9,338	9,522	9,693	0.4	1.8
Surface rail - light rail	1,262	959	1,013	-2.2	5.6
Trolley coach	1,050	725^{r}	823	-2.4	13.5
Total +	61,350	65,696	70,983^{p}	1.5	8.0
Number of Employees					
Motorbus, surface rail, trolley coach, subway and elevated	138,040e	177,000^{r}e	184,700^{p}e	3.0	4.4
III. PERFORMANCE					
Revenue Vehicle-Miles (millions)					
Motorbus	1,409.3f	1,633.6^{r} f	1,677.2f	1.8	2.7
Subway and elevated - heavy rail	407.1	380.5	384.7	-0.6	1.1
Surface rail - light rail	33.7	19.1	19.5	5.3	2.1
Trolley coach	33.0	11.7	13.0	-8.9	11.1
Total +	1,833.1	2,045.5^{r}	2,095.0^{p}	1.1	2.4
Revenue Passengers Carried ** (millions)					
Motorbus	4,058g	4,746^{r}g	4,774g	1.6	0.6
Subway and elevated - heavy rail	1,574	1,474	1,420	-1.0	-3.7
Surface rail - light rail	172	83	81	-7.3	-2.4
Trolley coach	128	45	71	-5.7	57.8
Total +	5,932	6,370	6,358^{p}	0.7	-0.2

+Includes cable car and inclined plane beginning in 1975.

r = revised
p = preliminary
n/a = not available
*Other includes combined systems (heavy, light, trolley, etc.) urban ferry, commuter railroads, etc.
** 1970 data is "Revenue Passenger Rides," 1979 & 1980 are "Linked Transit Passenger Trips."
Source: The following data references are listed in Appendix A, p. 174.

Source	References Number/Location	Source	References Number/Location
a	4) Table 8	e	4) Table 18
b	4) Table 1	f	4) Table 13
c	4) Table 7	g	4) Table 11
d	4) Table 15		

WATER TRANSPORT PROFILE

	1970	1979	1980	1970-1980 Average Annual % Change	1979-1980 % Change
I. FINANCIAL					
Revenues ($ millions)					
Domestic Freight	1,922a*	5,515^{r}a*	6,437a*	13.0	16.7
Coastal waterways	834	2,449	2,963	13.5	21.0
Inland waterways	473	1,497	1,810	14.4	20.9
Great Lakes	239	593	520	8.1	-12.3
Locks, channels, etc	376	976	1,144	11.8	17.2
International Freight	3,187	7,892	8,279	10.0	4.9
Domestic passengers, intercity	12	20	20	5.2	0.0
International passenger[1]	275	309	306	1.1	-1.0
Total Passenger	287	329^{r}	326	1.3	-0.9
Revenue of Class A and B Carriers by Standard Coastal Waterways ($ millions)					
Line service operating revenues					
Freight	277b	643c	n/a	-	-
Passenger	10	18	n/a	-	-
Other	13	51	n/a	-	-
Other operating revenue	5	5	n/a	-	-
Revenue from terminal operations	25	29	n/a	-	-
Rental and motor carrier revenue	41	26	n/a	-	-
Total waterline operating revenues	372	772	n/a	-	-
Revenues of U.S. Commercial Fishing Fleet					
U.S. Commercial Landings ($ million)	613d	2,234d	2,237d	13.8	0.1
Coastal and intercoastal service	89b	140c	n/a	-	-
Charter	54	51	n/a	-	-
Total vessel operating revenues	766	2,101	n/a	-	-
Total waterline operating revenues	833	2,235	n/a	-	-
Operating Expenses of Class A and B Carriers by Inland and Intercoastal Waterways ($ millions)	329	703	n/a	-	-
Operating Expenses of Maritime Carriers ($ millions)	800	2,089	n/a	-	-
II. INVENTORY					
Number of Companies, Class A & B Carriers Inland and Coastal Waterways	82b	66e	n/a	-	-
Number of Companies, Maritime Carriers	18	3	n/a	-	-
Number of Employees					
Ships, boat building, and repairing	171,800g	226,400^{r}z	219,700z	2.5	-3.0
Water transportation	213,400a	215,900^{r}	211,500	-0.1	-2.0

WATER TRANSPORT PROFILE

	1970	1979	1980	1970- 1980 Average Annual % Change	1979- 1980 % Change
Number of Employees					
Maritime carriers	14,848b	8,192c	n/a	-	-
Class A and B carriers by inland and coastal waterways	8,324	7,219	n/a	-	-
Mileage of Commercially Navigable Inland Waterways	25,543v	25,543v	25,543v	0.0	0.0
Number of Vessels					
Total non-self-propelled	n/a	29,492m	31,662m	-	7.4
Dry cargo barges and scows	n/a	25,420	27,426	-	7.9
Tank barges	n/a	4,000	4,166	-	4.2
Railroad car floats	n/a	72	70	-	-2.9
Total self-propelled	n/a	6,772	7,130	-	5.3
Dry cargo/passenger	n/a	1,920	2,036	-	6.0
Ferries, railroad car	n/a	37	67	-	81.1
Tankers	n/a	319	330	-	3.4
Towboats/tugs	n/a	4,492	4,693	-	4.5
Sailing vessels	n/a	4	4	-	0.0
U.S. Merchant Marine (over 1,000 gross tons)					
Total U.S. Flag	1,579w	865w	864w	-5.9	-0.1
Passenger/cargo	n/a	68	65	-	-4.4
Freighters	n/a	325	310	-	-4.6
Bulk carriers	n/a	18	17	-	-5.6
Tankers	n/a	291	289	-	-0.7
Intermodal	n/a	144	161	-	11.8
Tug/barge	n/a	8	9	-	12.5
LNG	n/a	11	13	-	18.2
Privately Owned	793	569	578	-	1.6
Government Owned	786	296	286	-	-3.4
Number of Recreational Boats (millions)	7.4n	13.9n	14.3n	6.8	2.9

III. PERFORMANCE

	1970	1979	1980	1970- 1980 Average Annual % Change	1979- 1980 % Change
Ton-Miles (millions)					
Domestic waterfreight					
Coastwise	359,784j	532,290j	631,149m	5.8	18.6
Internal	155,816	217,090	227,343	3.9	4.7
Lakewise	79,416	77,970	61,747	-2.5	-20.8
Local	1,179	1,410	1,596	3.1	13.2
Total	596,195	828,760	921,836	4.5	11.2
Tons of Freight Hauled (millions)					
Domestic water					
Coastwise	238j	305j	330m	3.3	8.2
Internal	472	535	535	1.3	0.0
Lakewise	157	144	115	-3.1	-20.1
Local	81	93	94	1.5	1.1
Total	948	1,077	1,074	1.3	-0.3
Exports					
Great Lakes ports	36i*	49i*	45i*	2.3	-8.2
Coastal ports	206	311	359	5.7	15.4
Total	242	360	404	5.3	12.2
Imports					
Great Lakes	26	25*	16*	-4.7	-36.0
Coastal ports	313	607	502	4.8	-17.3
Total	339	632	518	4.3	-18.0
Tons of Freight, Intraterritorial (millions)	1.5	4.0	3.6	9.2	-10.0

WATER TRANSPORT PROFILE (Cont.)

	1970	1979	1980	1970-1980 Average Annual % Change	1979-1980 % Change
Average Haul, Domestic System (miles-per-ton)					
Coastwise	1,508.9j	1,747.1j	1,914.8j	2.4	9.6
Internal	330.0	405.8	425.0	2.6	4.7
Lakewise	505.6	543.1	536.4	0.6	-1.2
Local	14.5	15.1	16.9	1.5	11.9
Overall Average	628.2	770.0	858.4	3.2	11.5
Cargo Capacity (net tons)					
Total non-self-propelled vessels	n/a	42,427,745m	44,875,116m	-	5.8
Dry cargo barges and scows	n/a	32,093,068	34,486,851	-	7.5
Tank barges	n/a	10,334,677	10,388,265	-	0.5
Total self-propelled vessels	n/a	21,105,747	23,906,340	-	13.3
Dry cargo/passenger	n/a	7,825,407	8,011,587	-	2.4
Tankers	n/a	13,280,340	15,894,753	-	19.7
Total Number of Marine Accidents in Waterborne Transport[4]	2,582t	$4,665^{r}$t	4,367t	5.4	-6.4
Total Number of Fatalities in Waterborne Transport[5]	178k	190q	198e	1.1	4.2
Inspected, total	38*	18*	22	-5.3	22.2
Passenger and ferry, large and small	1	5	n/a	-	-
Freight	30	8	n/a	-	-
Cargo, barge	0	0	n/a	-	-
Tank ships and tank barges	4	3	n/a	-	-
Government owned vessels	1	0	n/a	-	-
Miscellaneous	2	2	n/a	-	-
Uninspected, total	140*	172*	176	2.3	2.3
Commercial fishing	77	92	n/a	-	-
Tugs	22	19	n/a	-	-
Foreign	8	10	n/a	-	-
Miscellaneous	33	51	n/a	-	-
Total Number of Injuries in Waterbone Transport[5]	105	116	122	1.5	5.2
Inspected, total	47*	37*	n/a	-	-
Passenger and ferry, large and small	10	17	n/a	-	-
Freight	14	9	n/a	-	-
Cargo, barge	0	0	n/a	-	-
Tank ships and tank barges	19	8	n/a	-	-
Government owned vessels	1	0	n/a	-	-
Miscellaneous	3	3	n/a	-	-
Uninspected, total	58*	79*	n/a	-	-
Commercial fishing	13	23	n/a	-	-
Tugs	10	21	n/a	-	-
Foreign	2	10	n/a	-	-
Miscellaneous	33	25	n/a	-	-

WATER TRANSPORT PROFILE (Cont.)

	1970	1979	1980	1970-1980 Average Annual % Change	1979-1980 % Change
Number of Fatalities in Recreational Boating					
Inboard	119x*	109y*	100y*	-1.7	-8.3
Outboard	774	660	609	-2.4	-7.7
Inboard/outboard	28	65	47	5.3	-27.7
Jet	n/a	9	10	-	11.1
Sail	n/a	29	43	-	48.3
Manual (oars and paddle)	n/a	240	272	-	13.3
Other	278	55	14	-25.8	-74.5
Propulsion Unknown	219	233	265	1.9	13.7
Total	1,418	1,400	1,360	-0.4	-2.9

[1] Revenues paid by American travelers to U.S. and foreign flag carriers.

[2] Does not include Great Lakes and coastal harbors.

[3] Privately owned vessels with a passenger capacity greater than 125.

[4] Casualties to commercial vessels under USCG jurisdiction.

[5] Fatalities/injuries are on a fiscal year basis due to vessel casualties.

+This data is also included in the Domestic Coastwise figure above.

*Figure obtained by addition/subtraction and may not appear directly in data source.

p = preliminary, r = revised, n/a = not available.

Source: The following data references are listed in Appendix A, p. 174.

Source	Reference Number/Location
a	27) pp. 2, 5
b	18) pp. 137, 138
c	19) Table 10, 11, pp. 128, 129
d	37) p. 6
e	33) Personal communication
g	43) p. 60
h	8) Tables, 6, 7, 8, 9,
i	30) Part 5, Sec. 1. Table 1A/1B
j	30) Part 5, Sec. 3. Table 1
k	33) p. 230
m	30) Personal communication
n	54) p. 46
q	33) p. 169
s	42) p. 63
t	54) Chart 20
u	33) p. 232
v	7) pp. 1, 2, 3
w	51) Personal communication
x	31) p. 41
y	32) p. 21
z	43) p. 133/253

RAIL PROFILE
A. CLASS I RAILROADS

	1970	1979	1980	1970-1980 Average Annual % Change	1979-1980 % Change
I. FINANCIAL					
Revenues, Class I Line-Haul Railroads ($ millions)					
Passenger	420.5a	381.3a*	438.3a	0.4	14.9
Commutation	172.3	253.4	292.2	5.4	15.3
Other than Commutation	248.1	128.0*	146.1	-5.2	14.1
Freight	11,105.6b	23,447.4b	26,349.7aa	9.0	12.4
Other	466.0v	1,389.9v	1,454.0v	12.1	4.6
Total Operating revenues	11,991.7	25,219.1	28,254.4	9.0	12.0
Operating Expenses, Class I Line-Haul Railroads[2] ($ millions)	11,477.5	23,994.2	26,352.2	8.7	9.8
II. INVENTORY					
Number of Vehicles, Class I Railroads					
Freight-carrying cars	1,423,921c	1,118,381c	1,101,343c	-2.5	-1.5
Passenger train cars	11,177d	2,215d*	2,219d*	-14.9	0.2
Locomotives	27,086e	27,043e	27,977e	0.3	3.5
Number of Companies, Class I Railroads	71n	41f	40f	-5.6	-2.4
Number of Employees, Class I Railroads	566,282g	482,789g	458,332g	-2.1	-5.1
Line Mileage, Line-Haul Railroads	206,265h	184,500h	179,000h	-1.4	-3.0
III. PERFORMANCE					
Car Mileage, Class I Railroads (millions)					
Freight	30,325.8i	29,857.0i	29,277.3i	-0.4	-1.9
Passenger	596.5	58.9	60.1	-20.5	2.0
Motorcar	93.2	90.3	93.0	-0.0	3.0
Total	31,015.5	30,006.2	29,430.4	-0.5	-1.9
Train Mileage, Class I Railroads (millions)					
Freight	427.1	437.8	428.5	0.0	-2.1
Passenger	92.8	30.3	31.0	-10.4	2.3
Total	519.9	468.1	459.5	-1.2	-1.8
Locomotive Mileage, Class I Railroads (millions)					
Freight	1,573.0*	1,526.2*	1,531.1*	-0.3	0.3
Passenger	147.5*	13.7*	14.2*	-20.9	3.6
Total	1,720.5	1,539.9	1,545.3	-1.1	0.4
Revenue Passengers Carried, Class I Railroads (millions)					
Commutation	206.1a	202.7a*	211.2a	0.2	4.2
Other than Commutation	77.9	70.8*	68.1	-1.3	-3.8
Revenue Passenger Miles, Class I Railroads (millions)					
Commutation	4,591.7	4,719.3*	4,935.5	0.7	4.6
Other than Commutation	6,178.7	1,613.3*	1,556.4*	-12.9	-3.5

RAIL PROFILE
A. CLASS I RAILROADS (Cont.)

	1970	1979	1980	1970-1980 Average Annual % Change	1979-1980 % Change
Average Passenger Trip Length, Class I Railroads (miles)					
Commutation[1]	22.3q	23.5q	23.6 q	0.6	0.4
Other than Commutation	79.3	71.2	69.2	-1.4	-2.8
Average Passenger Load Factor, Class I Railroads	36.7s	53.1s	n/a	-	-
Revenue Ton-Miles, Class I Railroads (millions)					
Freight	764,809.0j	902,058.5j	918,958.1t	1.9	1.9
Average Haul, Class I Railroads (miles)					
Freight	292.4	371.1	337.5 j	1.4	-9.1
Number of Fatalities, Railroads and Grade Crossings					
Passengers on trains	n/a	6k	4k	-	-33.3
Employees on duty	n/a	101	97	-	-4.0
Employees not on duty	n/a	1	4	-	300.0
Contractor employees	n/a	9	7	-	-22.2
Trespassers	n/a	516	566	-	9.7
Non-Trespassers	n/a	796	739	-	-7.2
Total Railroad and Grade Crossing	2,225m	1,429	1,417	-4.4	-0.8
Grade Crossing only	1,440	883	833	-5.3	-5.7
Railroad only	785	546	584	-2.9	7.0

+Amtrak figures subtracted from data given in source reference. As of 1978 Auto-Train is no longer Class I.

*Figure obtained by addition and may not appear directly in data source.

[1] Includes Amtrak and Auto-Train.

[2] Operating expenses include equipment, joint facility rents, leased roads and equipment, and all taxes except Federal income.

Source: The following data references are listed in Appendix A, p. 174.

Source	Reference Number/Location	Source	Reference Number/Location
a	9) pp. 8, 18	m	54) Chart 7
b	9) p. 1	n	10) pp. 3, 4, 5
c	9) p. 10	q	9) p. 8
d	9) p. 11	s	26) p. 15
e	9) p. 9	t	11) p. 6
f	10) Preface	u	11) p. 7
g	9) p. 5	v	10) p. 9/10
h	10) p. 46	w	9) Personal communication
i	9) p. 12	x	11) p. 1/2
j	9) p. 6	y	11) p. 37
k	54) Table 10	z	11) p. 8
		aa	10) p. 13

RAIL PROFILE
B. AMTRAK

	1970†	1979	1980	1970-1980 Average Annual % Change	1979-1980 % Change
I. FINANCIAL					
Revenues ($ thousands)					
Passenger		320,956a	368,240a	-	14.7
Commutation		4,134	4,879	-	18.0
Other than Commutation		316,822	363,361*	-	14.7
Other		77,463	85,273	-	10.1
Total Operating revenues		398,419	453,513d	-	13.8
Operating Expenses		905,259	1,081,239	-	19.4
II. INVENTORY					
Number of Vehicles					
Passenger train cars		2,026	2,128	-	5.0
Locomotives		437	448	-	2.5
Number of Companies		1	1	-	0.0
Number of Employees		20,013	21,416	-	7.0
Line Mileage		26,555 d	23,940d		-9.8
III. PERFORMANCE					
Car Mileage (millions)					
Passenger		255.1	234.8	-	-8.0
Train Mileage (millions)					
Passenger		31.4	29.5	-	-6.1
Locomotive Mileage (millions)					
Passenger		46.1 a	40.7*a	-	-11.7
Revenue Passengers Carried (millions)					
Commutation		2.9	3.4f	-	17.2
Other passenger		18.6	17.4	-	-6.5
Revenue Passenger Miles (millions)					
Commutation		115.3	134.7	-	16.8
Other passenger		4,751.9	4,368.5*	-	-8.1
Average Passenger Trip Length (miles)					
Commutation		39.2	40.0a	-	2.0
Other passenger		256.2	250.9	-	-2.1

*Figure obtained by addition/subtraction and may not appear directly in data source.

†The National Railroad Passenger Corporation (Amtrak) came into operation in May 1971, thus no data are available.

Source: The following data references are listed in Appendix A, p. 174.

Source	Reference Number/Location
a	9) pp. 17/18
b	11) p. 7
d	10) p. 62
e	11) p. 1
f	11) p. 8

OIL PIPELINE PROFILE

	1970	1979	1980	1970-1980 Average Annual % Change	1979-1980 % Change
I. FINANCIAL					
Operating Revenues ($ millions)					
ICC-regulated	1,188a	5,585^{r}a	6,141a	17.9	10.0
Non-regulated	208	621	682	12.6	9.8
Total	1,396	6,206	6,823	17.2	9.9
Operating Expenses ($ millions)					
ICC-regulated	672b	n/a	n/a	-	-
II. INVENTORY					
Number of ICC-regulated Companies	101	123t	128t	2.4	4.1
Number of Employees ICC-regulated Companies	15,017	20,100^{r}k	21,400k	3.6	6.5
Miles ICC-regulated pipeline	n/a	169,794j	169,349j	-	-0.3
Total mileage[1]	218,671f	234,480f	n/a	-	-
III. PERFORMANCE					
Intercity Ton-Miles (millions)					
ICC-regulated	366,800g	510,500m	n/a	-	-
Non-regulated	64,200*	97,800*	n/a	-	-
Total	431,000	608,300e	579,000c	3.0	-4.8
Tons Transported (millions)[2]					
Crude petroleum[3]	n/a	441h*	415h*	-	-5.9
Petroleum products (delivered from lines)	n/a	542i*	508i*	-	-6.3
Total	n/a	983	923	-	-6.1
Average Length of Haul (statute miles)					
Crude petroleum	300d	n/a	n/a	-	-
Petroleum products	357	n/a	n/a	-	-

*Figure obtained by addition/subtraction and may not appear directly in data source.

[1] Regulated plus unregulated mileage of crude oil trunk and gathering lines, plus refined oil trunk lines.

[2] Data has been converted from barrels to short tons per Table 2, Section XV, Basic Petroleum Data Book, American Petroleum Institute.

[3] Excludes crude oil imported for direct burning for fuel use by pipeline.

n/a = not available, r = revised

Source: The following data references are listed in Appendix A, p. 174.

Source	Reference Number/Location	Source	Reference Number/Location
a	27) p. 2	h	39) Table 13
b	18) p. 140	i	39) Table 28
c	27) p. 3	j	25) p. 101
d	26) p. 14	k	43) p. 253
e	12) Personal communication	m	6) p. 36
f	28) p. 13	t	41) Personal communication
g	18) pp. 132, 133		

NATURAL GAS PIPELINE PROFILE

		1970	1979	1980	1970- 1980 Average Annual % Change	1979- 1980 % Change
I.	**FINANCIAL**[1]					
	Operating Revenues ($ millions)					
	Total Operating Revenues	5,928a	22,919b	41,574b	21.5	81.4
	Operating Expenses ($ millions)					
	Operation Expenses	4,094	24,923	36,030	24.3	44.6
	Maintenance Expenses	109	336	405	14.0	20.5
	Total Operating and Maintenance Expenses	4,203	25,259	36,435	24.1	44.2
	Taxes					
	Federal Taxes	202*	1,041*	1,160*	19.1	11.4
	State and Local Taxes	174	550*	662*	14.3	20.4
	Total Taxes	376	1,591	1,822	17.1	14.5
	Total Operating Expenses	5,088b	28,036	39,497		40.9
II.	**INVENTORY**					
	Number of Interstate Natural Gas Pipeline Companies	110k	89c	91c	-1.9	2.2
	Number of Employees[2]	32,400d	42,400d	45,200d	3.4	6.6
	Miles of Transmission Pipelines[3]	252,200e	263,500e	266,900e	0.6	-0.5
	Total Natural Gas Pipeline Supplies Available (trillion cubic feet)	227.0h	124.3h	n/a	-	-
III.	**PERFORMANCE**					
	Total Natural Gas Pipeline Sales (trillion cubic feet)	15.3	15.1	15.0h	-0.2	-0.7
	Natural Gas Marketed Production (trillion cubic feet)	n/a	20.471g	19.88g	-	-2.9
	Natural Gas to Consumers (trillion cubic feet)	n/a	20.24	19.88	-	-1.8
	Total Fatalities	26i*	49i*	14i*	-6.0	-71.4
	Gas Pipeline	22	45	11	-6.7	-75.6
	Liquid Pipeline	4	4	3	-2.8	-25.0

*Figure obtained by addition/subtraction and may not appear directly in data source.

[1] Data for 1980 and 1979 not directly comparable to previous years due to reclassification of several companies.
[2] Investor-owned gas utility industry transmission companies only.
[3] Mileage does not include field and gathering pipelines or distribution mains.

Source: The following data references are listed in Appendix A, p. 174.

Source	Reference Number/Location	Source	Reference Number/Location
a	2) Table 171	g	38) Table 1
b	3) Table 134	h	40) Table 28
c	40) p. 1	i	54) Chart 28
d	3) Table 153	k	17) Preface
e	3) Table 44		

SELECTED PASSENGER AND CARGO PERFORMANCE INDICATORS BY MODE 1970, 1979 and 1980

SELECTED PASSENGER AND CARGO PERFORMANCE INDICATORS BY MODE, 1970, 1979 AND 1980

	1970	1979	1980
AIR CARRIER			
Revenue passenger-miles per capita			
Domestic operations			
Certified, all services	533.4	947.2	897.0
Scheduled service	512.0	930.2	883.4
Non-scheduled service	21.1	17.0	13.6
International operations			
Certified, all services	195.3	253.9	252.7
Scheduled service	135.6	236.6	238.8
Non-scheduled service	59.7	17.3	13.9
Revenue passenger-miles per aircraft (millions)			
Domestic and international operations, certified route air carriers, all services	57.8	108.8	100.0
Revenue ton-miles of freight per capita			
Domestic operations			
Certified, all services	10.8	15.6	14.4
Scheduled service	10.4	15.2	14.2
Non-scheduled service	0.4	0.4	0.2
International operations			
Certified, all services	7.7	12.5	12.6
Scheduled service	6.4	11.1	10.8
Non-scheduled service	1.3	1.4	1.8
Revenue miles flown per aircraft	955,092.4	1,124,172.4	1,074,613.6
Revenue hours flown per aircraft	2,293.5	2,707.7	2,573.5
Total flight time per capita (minutes)	1.9	1.9	1.9
Average number of certificated aircraft available for service per carrier	65.7	43.3	43.1
GENERAL AVIATION			
U.S. Population per eligible aircraft	1,543.2	1,067.6	1,073.3
Total number of miles flown per capita	15.8	24.4	23.0
Total number of miles flown per aircraft	24,343.6	26,008.0	24,657.3
Total number of hours flown per aircraft	197.4	206.3	194.3
Total flight time per capita (minutes)	7.7	11.6	10.9
AUTOMOBILE			
U.S. Population per registered vehicle			
Passenger cars and taxis	2.3	1.9	1.9
Motorcycles	72.0	41.0	39.8
Vehicle-miles of travel per capita, passenger cars, Taxis, motorcycles			
Urban streets	2,432.6	3,047.6	2,961.0
Main rural roads	1,510.3	1,806.6	1,722.2
Local rural roads	488.9	322.5	305.2
Total Travel	4,431.8	5,176.8	4,988.4

SELECTED PASSENGER AND CARGO PERFORMANCE INDICATORS BY MODE, 1970, 1979 AND 1980 (Cont.)

	1970	1979	1980
AUTOMOBILE (Cont.)			
Passenger-miles per capita			
Passenger cars and taxis, total travel	9,640.1	11,455.7	11,290.4
Motorcycles, total travel	54.9	107.8	87.4
Vehicle-miles of travel per vehicle, passenger cars, taxis			
Urban streets	5,541.5	5,730.3	5,549.0
Main rural roads	3,440.6	3,396.8	3,227.4
Local rural roads	1,113.8	606.4	571.9
Total travel	10,095.8	9,733.5	9,348.3
Passenger-miles per vehicle			
Passenger cars and taxis	21,960.8	21,539.4	21,158.5
Motorcycles	3,952.8	4,423.7	3,477.1
BUS			
U.S. population per intercity bus	9,241.0	10,859.1	10,342.7
Vehicle-miles per capita			
commercial buses	14.5	13.9	15.5
School and non-revenue buses	10.6	13.3	12.8
All buses	24.7	27.2	28.3
Vehicle-miles per capita, all buses			
Urban Streets	10.9	12.7	13.7
Main rural roads	8.5	11.2	11.5
Local rural roads	5.4	3.3	3.1
Total travel	24.8	27.2	28.3
Revenue passenger-miles per capita			
Total intercity bus	124.4	121.1	122.3
Revenue passenger-miles per vehicle			
Total intercity bus (millions)	1.2	1.3	1.3
TRUCK			
Vehicle-miles per capita, all trucks			
Urban streets	396.5	765.0	765.3
Main rural roads	510.7	787.0	870.9
Local rural roads	148.7	53.2	61.6
Total travel	1,055.9	1,605.3	1,697.8
Vehicle-miles per truck registration			
Urban streets	4,299.3	5,151.5	5,153.5
Main rural roads	5,537.8	5,299.9	5,864.6
Local rural roads	1,613.0	358.3	414.7
Total travel	11,540.0	10,809.7	11,432.9
Intercity ton-miles per capita	2,026.5	2,707.4	2,472.4

SELECTED PASSENGER AND CARGO PERFORMANCE INDICATORS BY MODE, 1970, 1979 AND 1980 (Cont.)

	1970	1979	1980
LOCAL TRANSIT			
Revenue vehicle-miles per vehicle			
Motor bus	28,356.1	29,979.8	28,230.5
Subway and elevated	43,596.1	39,960.1	39,688.4
Surface rail	26,703.6	19,916.6	19,249.8
Trolley coach	31,428.6	16,137.9	15,795.9
Total transit	30,694.4	31,135.8	29,514.1
Revenue vehicle-miles per capita			
Motor bus	6.9	7.3	7.4
Subway and elevated	2.0	1.7	1.7
Surface rail	0.2	0.1	0.1
Trolley coach	0.2	0.1	0.1
Total transit	9.3	9.1	9.2
U.S. population per vehicle			
Motor bus	41,007.2	4,121.3	3,812.5
Subway and elevated	21,825.9	23,584.0	23,367.9
Surface rail	161,497.7	234,167.9	223,598.2
Trolley coach		309,747.6	275,218.7
Total transit	3,322.1	3,418.3	3,191.0
WATER TRANSIT			
Ton-miles per capita, domestic water			
Coastwise	1,769.7	2,370.3	2,786.5
Internal	766.4	966.7	1,003.7
Lakewise	390.6	347.2	272.6
Local	5.8	6.3	7.0
Total	2,932.6	3,690.5	4,069.8
Tons of freight hauled per capita, domestic water			
Coastwide	1.2	1.4	1.5
Internal	2.3	2.4	2.4
Lakewise	0.8	0.6	0.5
Local	0.4	0.4	0.4
Total	4.7	4.8	4.7
CLASS I RAILROADS			
Revenue passenger-miles per capita			
Commutation	22.6	21.0	21.8
Other	30.4	7.2	6.9
Total	53.0	28.2	28.7
Revenue passenger-miles per passenger train car (millions)	1.0	2.9	2.9
Revenue ton-miles per capita	3,761.9	4,016.9	4,057.1
Revenue ton-miles per freight car (millions)	0.5	0.8	0.9

SELECTED PASSENGER AND CARGO PERFORMANCE INDICATORS BY MODE, 1970, 1979 AND 1980 (Cont.)

	1970	1979	1980
OIL PIPELINE			
Intercity ton-miles per mile of line (millions)	2,120.0	2,708.8	n/a
Tons of petroleum transported per capita	n/a	4.4	n/a
GAS PIPELINE			
Cubic feet of gas consumed per capita (thousands)	-	90.1	87.8
Cubic feet of gas consumed per mile of transmission pipeline (millions)	-	76.8	75.8
Cubic feet of gas produced per capita (thousands)	-	91.1	87.8
Cubic feet of gas produced per mile of transmission pipeline (millions)	-	77.7	75.8
Operation expense per mile of transmission pipeline	16,233.1	94,584.4	137,414.2
Maintenance expense per mile of transmission pipeline	536.1	1,275.1	1,544.6

n/a = not available

Source: Per capita figures were based on 1970, 1979 and 1980 total resident populations of 203,806,000; 224,567,000; and 226,505,000, respectively (excluding Armed Forces abroad). Data was obtained from the Statistical Abstract of the United States 1981, Table 8, p. 9.

All other figures were taken directly from the "Modal Profiles" section of this book.

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TRANSPORTATION TRENDS 1970 — 1980

Table 1. Average Passenger Revenue per Passenger-Mile, 1970- 1980
(cents)

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
Certified air carrier[1] (domestic)											
Total	6.00	6.33	6.40	6.63	7.52	7.69	8.16	8.61	8.49	8.96	11.53
(Index)*	(106)	(112)	(113)	(118)	(133)	(136)	(145)	(153)	(151)	(159)	(204)
First class	8.30	8.59	8.70	8.93	9.89	10.58	11.50	12.21	11.97	11.43	14.35
(Index)*	(115)	(119)	(120)	(123)	(137)	(146)	(159)	(169)	(165)	(158)	(198)
Coach plus economy	5.45	5.83	5.88	6.11	6.94	7.05	7.49	7.92	7.81	8.34	10.87
(Index)*	(106)	(114)	(115)	(119)	(135)	(137)	(146)	(154)	(152)	(163)	(212)
Class I rail[2]											
Total	3.91	4.24	4.79	4.88	4.98	4.99	5.65	5.74	5.86	6.02	6.15
(Index)*	(122)	(133)	(150)	(153)	(156)	(156)	(177)	(179)	(183)	(188)	(192)
Commutation	3.75	3.92	4.22	4.29	4.44	4.57	5.04	5.07	5.20	5.37	5.92
(Index)*	(112)	(117)	(126)	(128)	(132)	(132)	(150)	(151)	(155)	(160)	(176)
Other than commutation	4.02	4.85	6.66	6.81	6.75	6.25	7.60	7.85	7.84	7.93	9.39
(Index)*	(128)	(155)	(213)	(218)	(216)	(200)	(243)	(251)	(250)	(253)	(300)
Amtrak**											
Total-	-	4.32	4.37	4.40	5.23	5.66	5.56	5.83	6.08	6.59	8.18
(Index)	-	(100)	(101)	(102)	(121)	(131)	(124)	(135)	(141)	(153)	(189)
Commutation	-	2.89	2.97	3.46	3.52	4.40	3.59	3.01	3.07	3.56	3.62
(Index)	-	(100)	(103)	(120)	(122)	(152)	(124)	(104)	(106)	(124)	(125)
Other than commutation	-	4.38	4.42	4.44	5.29	5.71	5.62	5.92	6.16	6.67	8.32
(Index)	-	(100)	(101)	(101)	(121)	(130)	(128)	(135)	(141)	(152)	(190)
Class I intercity bus[3]	3.60	3.83	3.98	4.05	4.42	4.85	5.14	5.18	5.62	6.21	7.28^p
(Index)*	(121)	(129)	(134)	(136)	(148)	(163)	(172)	(174)	(189)	(209)	(244)
Consumer Price Index*	116	121	125	133	148	161	171	182	195	217	247

r = revised
p = preliminary
[1] Scheduled service.
[2] Excludes Amtrak and Auto-Train service.
[3] Regular route intercity service.
*Index = 100 in 1967.
**Amtrak established May 1, 1971, index = 100 in 1971.
Source: See Appendix A, p. 160.

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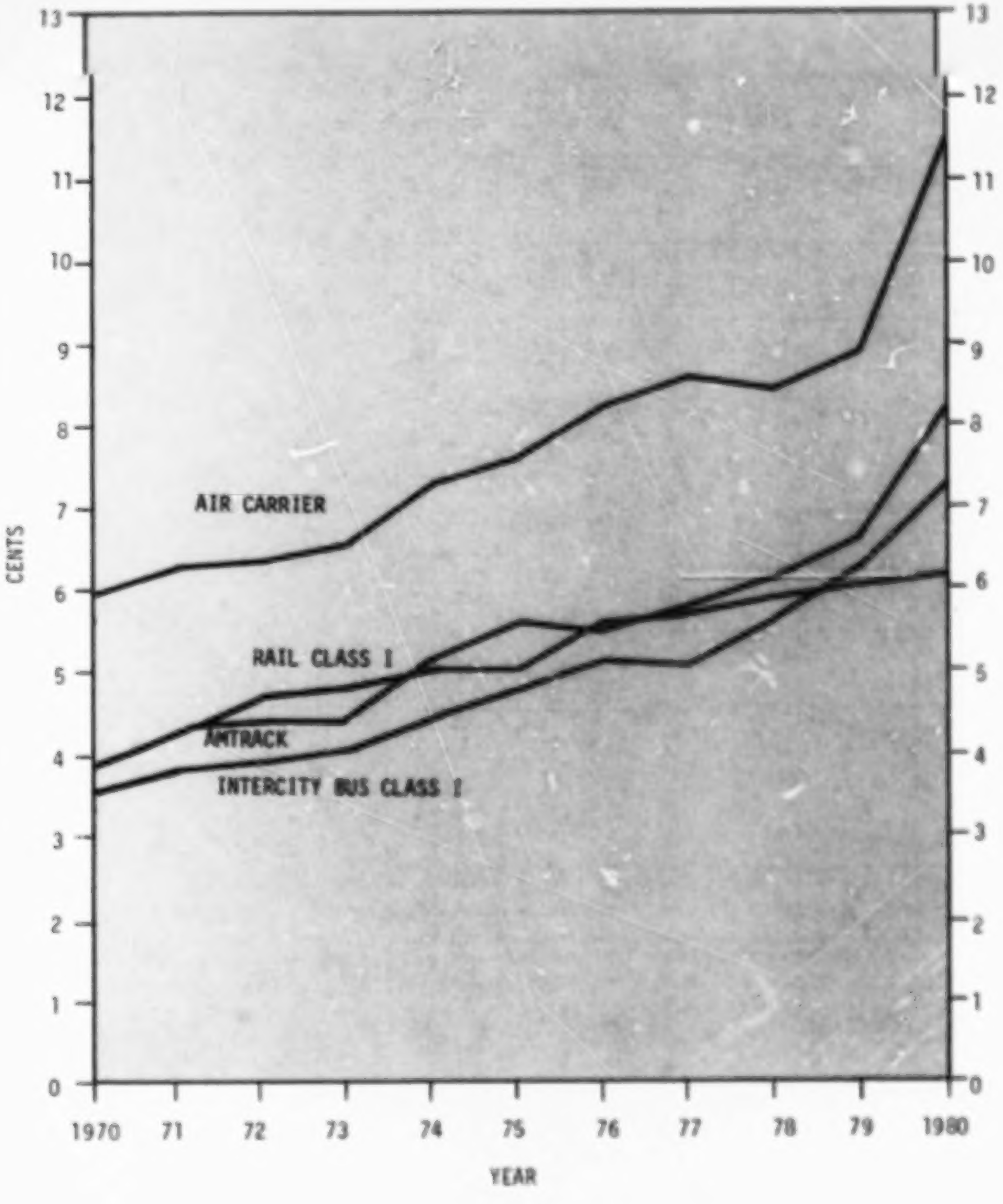

Figure 10. Average Passenger Revenue per Passenger-Mile, 1970- 1980

Table 2. Average Freight Revenue per Ton-Mile, 1970- 1980
(cents)

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
Air carrier certificated, domestic operations, scheduled service	21.91	22.61	22.75	23.31	25.92	28.22	31.81	34.20	37.10	41.02	46.29
(Index)*	(110)	(114)	(114)	(117)	(130)	(142)	(160)	(172)	(186)	(206)	(233)
Class I rail	1.43	1.59	1.62	1.62	1.85	2.04	2.20	2.29	2.36	2.60	3.12
(Index)*	(113)	(125)	(128)	(128)	(146)	(161)	(173)	(180)	(186)	(205)	(246)
Class I intercity motor carriers of property[1]											
Common	7.46	7.85	8.00	8.34	9.00	9.20	9.97	10.85	11.20	11.97	n/a
(Index)*	(112)	(118)	(120)	(125)	(135)	(138)	(150)	(163)	(168)	(180)	-
Contract	6.86	7.20	7.02	6.68	7.00	7.80	8.20	9.05	12.97	13.50	n/a
(Index)*	(93)	(98)	(95)	(91)	(95)	(106)	(111)	(123)	(176)	(183)	-
Oil Pipelines	0.27	0.29	0.29	0.29	0.32	0.37	0.41	0.54	0.86	0.94	1.03
(Index)*	(104)	(112)	(112)	(112)	(123)	(142)	(158)	(208)	(331)	(362)	(396)
Class A and B water carriers	0.43	0.47	0.47	0.55	0.67	0.77	0.74	0.81	0.84	0.90^p	n/a
(Index)*	(113)	(124)	(124)	(145)	(176)	(203)	(195)	(213)	(221)	(237)	-
Producer Price Index*	110	114	117	128	148	163	171^r	182^r	196^r	218^r	247

* Index = 100 in 1967.
p = preliminary
r = revised

[1] Intercity service excluding carriers of household goods.

Source: See Appendix A, p. 162.

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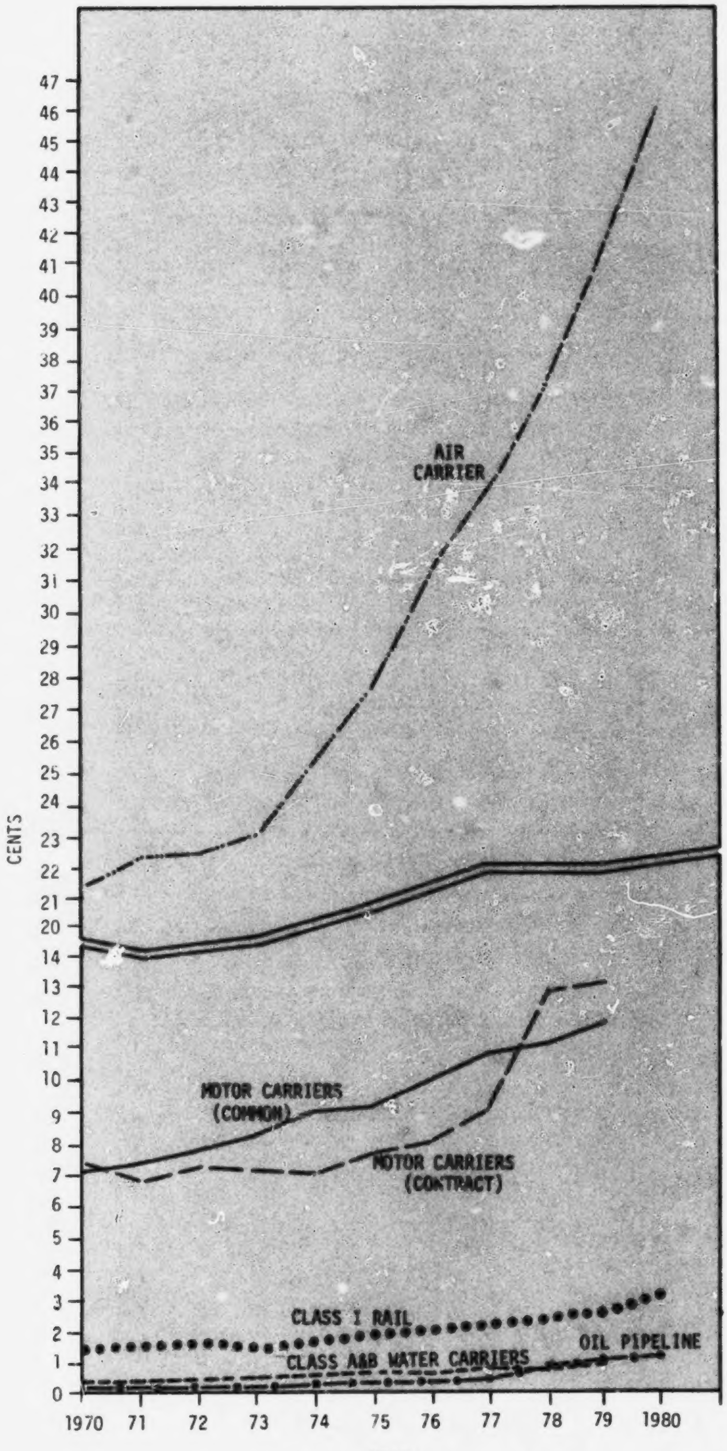

Figure 11. Average Freight Revenue per Ton-Mile, 1970- 1980

Table 3. Average Passenger Fare, 1970- 1980
(Dollars)

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
Air carrier											
Certificated domestic operations scheduled service	40.65	43.13	43.87	45.72	51.43	53.64	57.47	60.67	61.07	63.81	84.55
Class I bus, intercity[1]	3.81	4.19	4.25	4.73	5.13	5.46	5.76	6.48	6.89	7.71	8.98[p]
Local transit											
Railway											
Surface rail	.27	.26	.27	.27	.28	.30	.30	.30	.33	.34	.38[p]
Subway and elevated	.23	.24	.28	.31	.34	.36	.46	.48	.46	.46[r]	.51[p]
Trolley coach	.24	.28	.32	.32	.29	.28	.28	.28	.28	.29	.37[p]
Motor bus	.29	.32	.33	.32	.32	.32	.33	.35	.36	.36	.38[p]
Grand total	.28	.30	.31	.32	.32	.33	.36	.38	.38	.38	.38[p]
Class I rail											
Commutation	.84	.87[2]	.93[2]	.95[2]	1.00[2]	1.04[2]	1.15[2]	1.16[2]	1.20[3]	1.25[3]	1.38[3]
Other than Commutation	3.19	1.92[2]	1.47[2]	1.54[2]	1.56[2]	1.61[2]	1.73[2]	1.79[2]	1.84[3]	2.21[3]	2.28[3]
Amtrak*											
Commutation		1.14	1.18	1.94	1.65	1.91	1.44	1.22	1.29	1.41	1.45
Other than Commutation		9.58	9.31	11.72	14.54	15.16	15.12	15.13	15.11	17.08	20.86

p = preliminary

[1] Intercity regular route service.

[2] Excludes Amtrak and Auto-Train data.

[3] Excludes Amtrak data, Auto-Train is no longer Class I.

*Amtrak established May 1, 1971.

Source: See Appendix A, p. 161.

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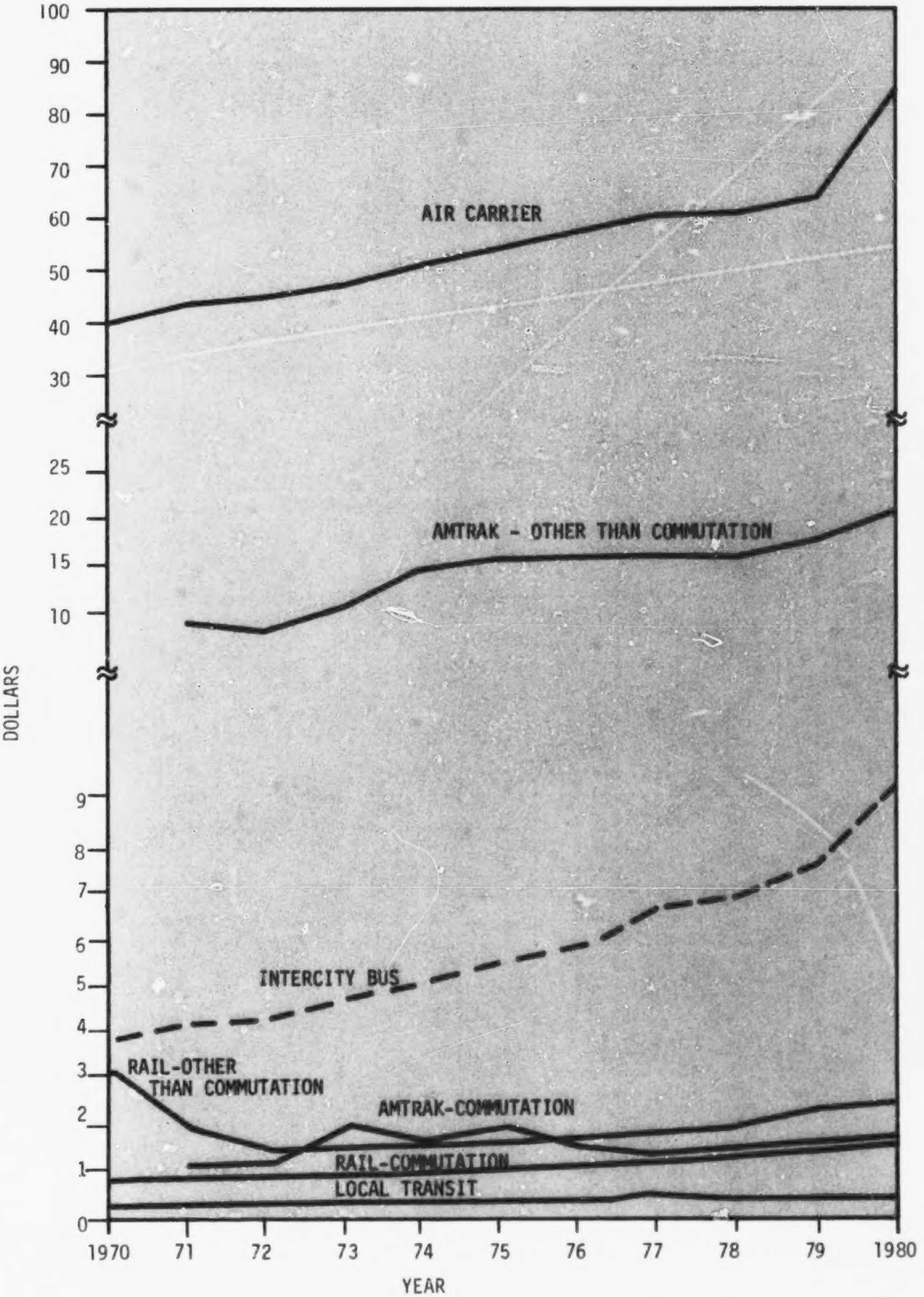

Figure 12. Average Passenger Fare, 1970- 1980

Table 4. Total Operating Revenues, 1970- 1980
($ million)

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
Air carrier, domestic and international											
Certificated, all services	9,289.7	10,045.6	11,163.3	12,418.8	14,702.6	15,356.3	17,503.2	19,926.4	22,892.1	27,227.0^{r}	33,266.7
Supplemental	337.2	363.8	331.1	374.2	428.8	433.2	417.5	516.2	529.7	561.9	787.8
Class I bus, intercity	721.7	758.4	775.3	814.6	932.6	954.7	993.0^{r}	982.7^{r}	1,036.7^{r}	1,205.2^{r}	1,393.9^{p}
Local transit	1,707.4	1,740.7	1,728.5	1,797.6	1,939.7	2,002.4	2,161.1	2,280.0	2,381.1	2,524.2^{r}	2,695.6^{p}
Oil pipeline	1,188	1,249	1,338	1,446	1,587	1,874	2,137	2,792	4,907	5,585^{r}	6,141
Gas pipeline (Transmission companies only)	5,928	6,955	7,390	7,712	9,085	11,898	15,416	19,836	22,989	29,919	41,574
Class I intercity motor carriers of property	11,137.0	13,011	14,994	16,600	16,704	16,164	18,360	22,520	26,855	29,858	30,338
Class I rail	11,991.7	12,689.0	13,409.8	14,770.1	16,922.8	16,401.9	18,536.5	20,090.5	21,721.3	25,219.1	28,254.4
Amtrak*		100.1	162.6	202.1	256.9	252.7	287.2	310.2	321.2	398.4	453.5
Water transport											
Classes A and B carriers, inland and coastal	371.8	394.0	416.5	473.7	632.4	730.0	777.0	694	777	772	n/a
Maritime carriers	832.7	749.0	884.9	1,087.2	1,477.7	1,342.4	1,583.3	1,642.7	1,889.2	2,235.4	n/a
Class A freight forwarders	211.0	216.1	252.7	326.4	361.6	359.4	430.8	615.2	602.8	700.5	721.0

n/a = not available
p = preliminary
r = revised
*Amtrak established May 1, 1971.

Source: See Appendix A, p. 161.

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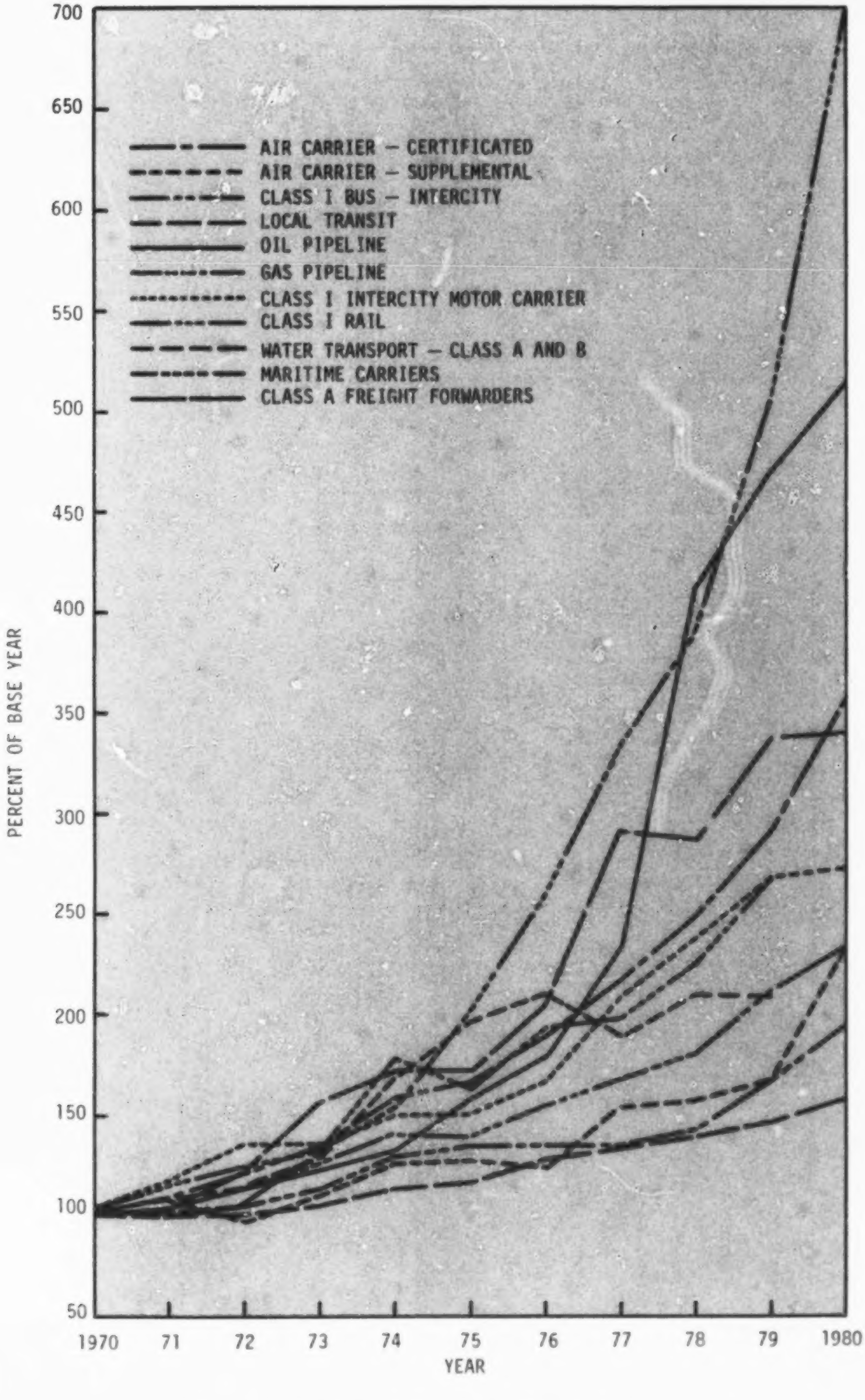

Figure 13. Total Operating Revenues, 1970- 1980

Table 5. Vehicle-Miles, 1970- 1980
(millions)

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
Air carrier											
Certificated domestic operations, all services	2,068	2,045	2,042	2,098	1,938	1,948	2,052	2,162	2,249	2,471^{r}	2,500^{p}
Supplemental domestic operations	34	36	33	35	31	26	24	24	28	23	22
General aviation^{e}	3,207	3,143	3,317	3,687	3,864	3,939	4,172	4,402	4,966	5,471	5,204^{p}
Highway											
Passenger car and taxi	890,844	939,102	986,407	1,016,861	990,721	1,028,121	1,075,762^{e}	1,118,649	1,171,092^{e}	1,140,518	1,111,887
Truck	214,670	227,037	259,735	267,147	267,519	274,454	307,950^{e}	329,465	347,906	360,500	384,570
Intercity bus	1,209	1,202	1,182	1,178	1,195	1,126	1,118	1,118^{r}	1,099^{r}	1,135^{r}	1,182
School bus	2,100	2,212	2,359	2,412	2,450	2,500	2,862	2,950	2,991	2,980	2,900
Local transit	1,883	1,846	1,756	1,835	1,907	1,990	2,026	2,021^{e}	2,046^{r}	2,029	2,095^{p}
Class I rail											
Passenger train	93	53**	33**	33**	34**	35**	35**	32**	31.7***	30.3***	31.0***
Freight train	427	430**	451**	469**	469**	403**	425**	428**	433***	437.9***	428.5***
Amtrak*		16	26	27	30	31	32	34	32	31	30

e = estimated
p = preliminary
r = revised
*Amtrak established May 1, 1971.
**Excludes Amtrak and Auto-Train service.
***Excludes Amtrak. Auto-Train no longer classified as Class I.

Source: See Appendix A, p. 162.

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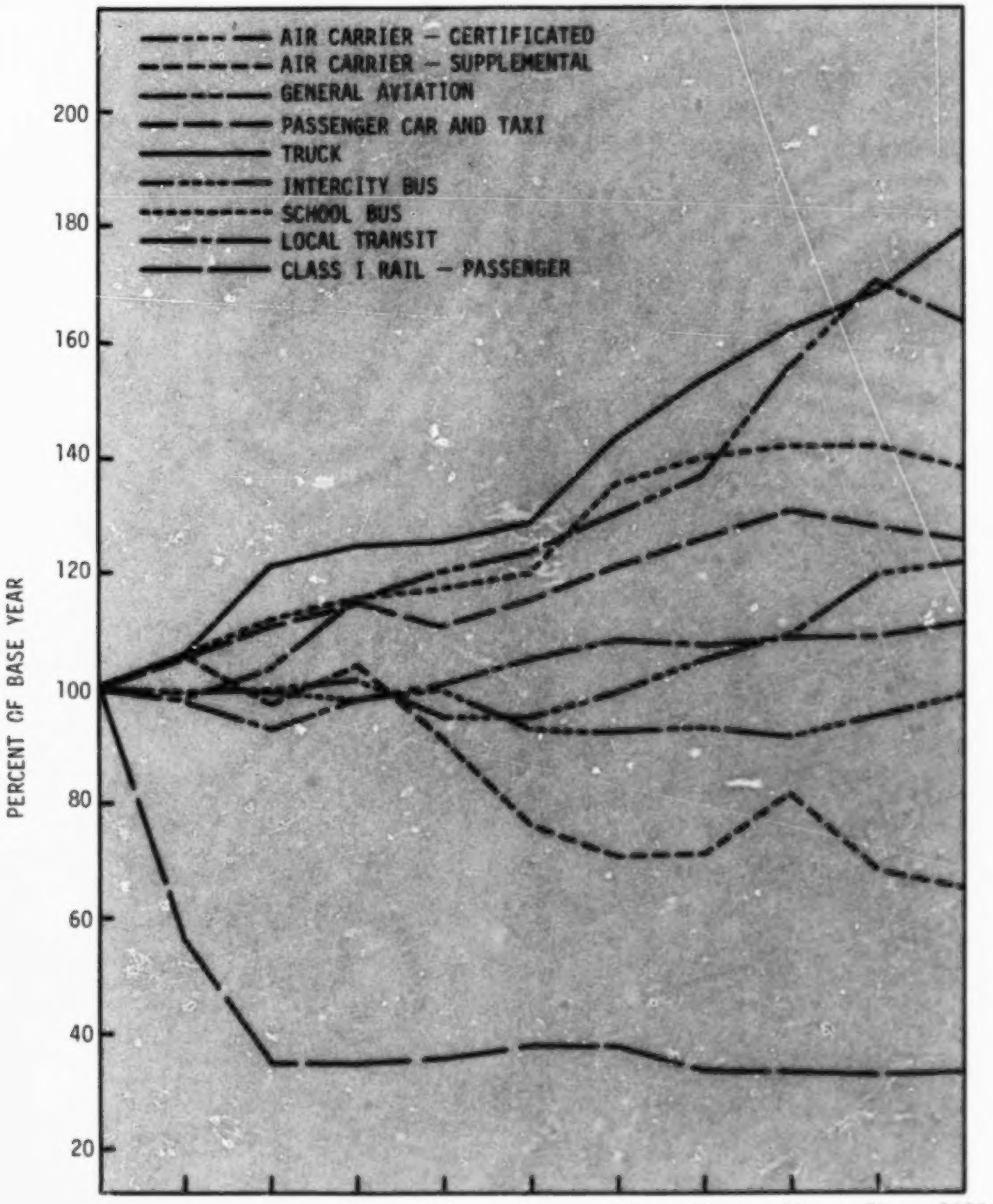

Figure 14. Vehicle-Miles, 1970- 1980

Table 6. Passenger-Miles, 1970- 1980
(millions)

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
Air carrier											
Certificated domestic operations, all services	108,442	109,804	121,820	130,450	133,668	135,999	151,379	163,219	187,812	212,701	203,177
Supplemental domestic operations	1,057	914	1,281	2,006	1,805	900	920	1,016	1,267	871	433
General aviation, intercity	9,[illegible]00	9,200	10,000	10,700	11,200^r	11,400^r	12,100^r	12,800	14,100^r	15,500^r	15,000
Highway											
Passenger car and taxi	1,959,857	2,066,024	2,170,095	2,237,094	2,179,586	2,261,866	2,366,676	2,461,028	2,576,402	2,509,140	2,446,151
Intercity bus	25,300	25,500	25,600	26,400	27,700	25,400	25,100	25,700	25,400	27,200	27,700
Class I Rail[1]											
Commutation	4,592	4,427	4,120	4,064	4,377	4,376	4,339	4,464	4,552	4,719	4,935
Other than commutation	6,179	2,481	1,249	1,238	1,423	1,546	1,422	1,412	1,516	1,613	1,556
Amtrak[2]											
Commutation	—	71	108	182	156	137	130	124	114	115	135
Other than Commutation	—	1,922	2,930	3,625	4,102	3,616	4,138	4,080	4,040	4,752	4,369
Domestic water, intercity	4,000	4,100	4,000	4,000	4,100	4,000	4,000	n/a	n/a	n/a	n/a

n/a = not available
r = revised
p = preliminary

[1] Amtrak and Auto-Train not included 1971-1977. Amtrak not included 1978, Auto-Train no longer classified as Class I.
[2] Amtrak established May 1, 1971.

Source: See Appendix A, p. 163.

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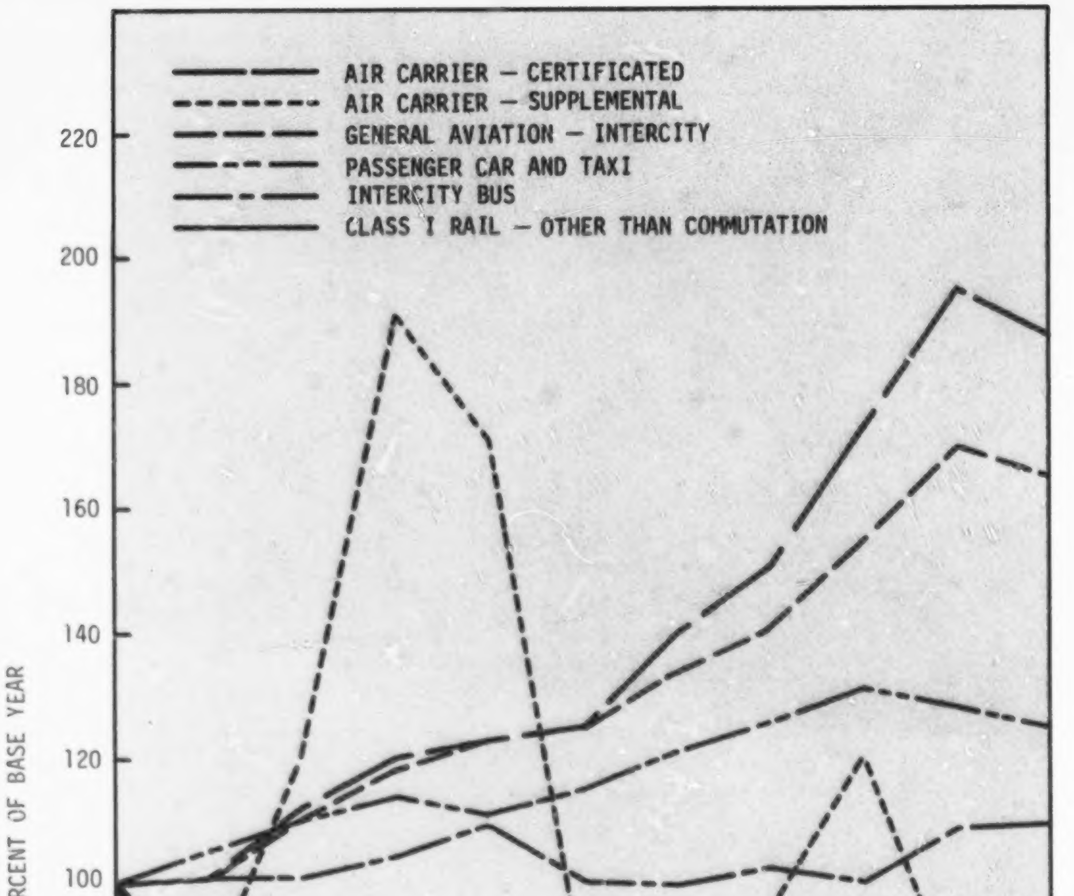

Figure 15. Passenger Miles, 1970- 1980

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Table 7. Cargo-Ton-Miles, 1970- 1980
(millions)

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
Air Carrier											
Certificated domestic operations, all services[1]	3,010	3,151	3,403	3,662	3,632	3,470	3,664	3,947	4,371	4,407	4,271
Supplemental domestic operations[2]	285	306	259	292	281	263	237	235	262	239	244
Oil pipeline	431,000	444,000	475,800	507,000	506,000	507,300	523,000	546,400	586,000	608,300	579,000
Class I rail	764,809	739,743	776,746	851,809	850,961	754,252	794,059	826,292	858,105	902,059	918,958
Motor vehicles, intercity	412,000	445,000	470,000	505,000	495,000	454,000	510,000	555,000	599,000^{r}	608,000^{r}	560,000
Water transport											
Inland waterways, including Great Lakes	318,560	315,030	338,693	358,222	354,882	342,210	372,865	368,275	409,316	425,000^{r}	411,000
Total domestic system	596,195	593,164	603,542	584,691	586,345	565,984	591,853	599,000	827,263	828,760	921,836

r = revised

[1] Includes revenue ton-miles of freight, U.S. and foreign mail, and express.

[2] Includes revenue ton-miles of freight and express. Supplemental carriers are not ordinarily authorized to carry mail.

Source: See Appendix A, p. 164.

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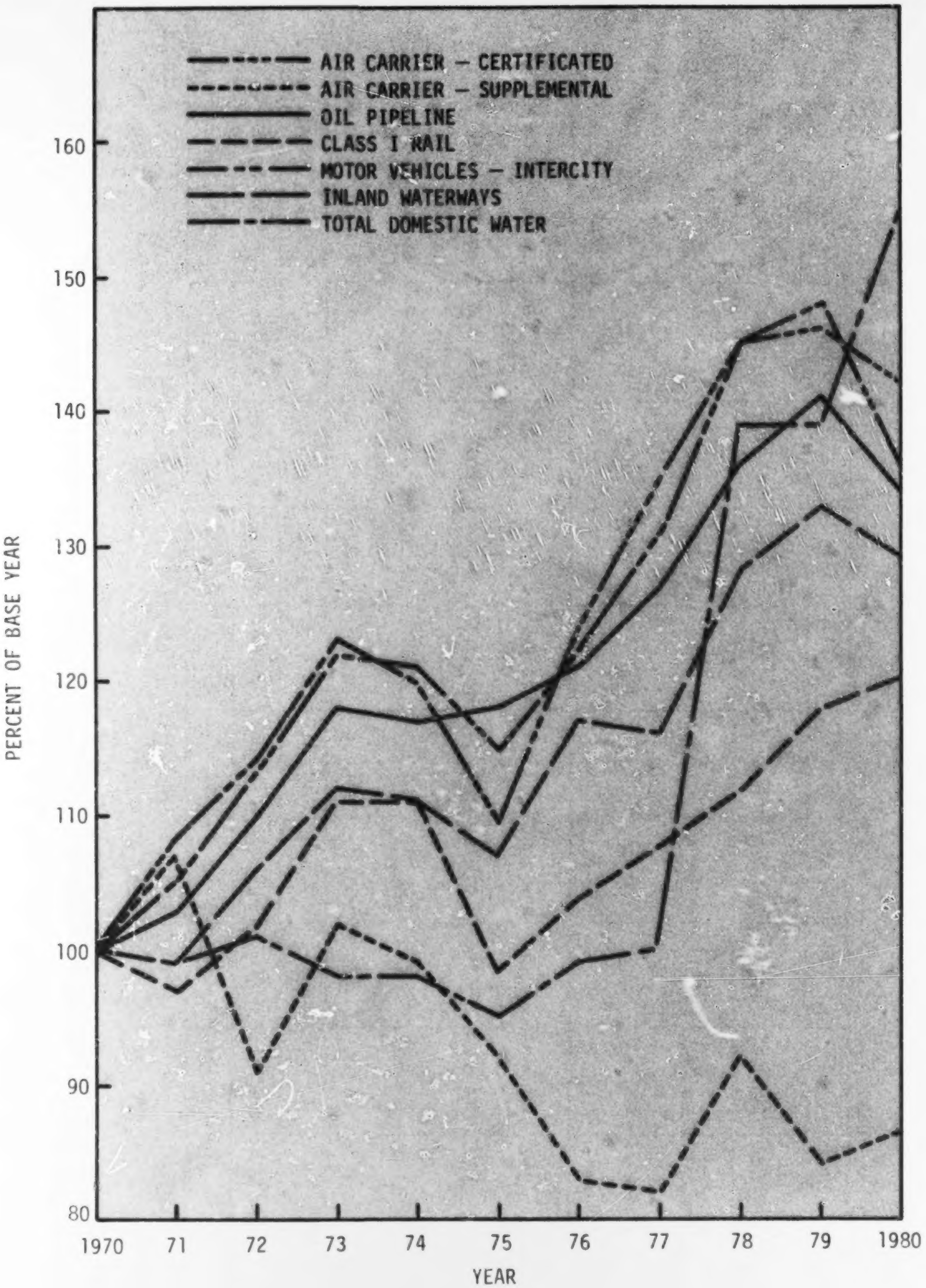

Figure 16. Cargo Ton-Miles, 1970- 1980

Table 8. Basic Intercity Mileage Within the Continental United States, 1970- 1980
(statute miles)

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
Railroads, all line haul	206,265	205,220	203,299	201,585	200,916	199,126	192,396	191,205	190,555	184,500	179,000[e]
Oil pipelines, Total	218,617	219,899*	221,127*	223,535	224,712*	225,889*	227,066	229,380*	231,647*	234,480*	n/a
Crude oil	75,143	n/a	n/a	76,250	n/a	n/a	77,972	n/a	n/a	n/a	n/a
Products	72,396	n/a	n/a	78,038	n/a	n/a	81,296	n/a	n/a	n/a	n/a
Gathering lines	71,132	n/a	n/a	69,247	n/a	n/a	67,798	n/a	n/a	n/a	n/a
Gas pipeline, Total	913,300	931,400	948,100	962,900	974,100	979,300	987,700	998,900	1,013,800	1,029,800	1,050,200
Distribution mains	594,800	610,400	623,100	633,800	645,600	648,200	659,100	666,900	677,500	688,500	700,100
Transmission pipelines	252,200	254,800	258,100	263,100	262,200	262,600	258,200	260,500	260,600	263,500	266,900
Field and gathering lines	66,300	66,200	66,900	65,900	66,400	68,500	70,300	71,500	74,900	77,800	83,200
Inland waterways	25,543	25,543	25,543	25,543	25,543	25,543	25,543	25,543	25,543	25,543	25,543
Highways**	271,517	271,714	270,259	268,364	267,756	265,905	298,743	301,072	302, 254	304,133	300,456
Airways	291,231	295,301	300,126	304,260	307,783	313,178	322,662	327,822	333,734	338,133	341,284

e = estimate
n/a = not available
*TAA Estimate
**Highway mileage has been revised to include Federal-Aid primary roads only

Source: See Appendix A, p. 165.

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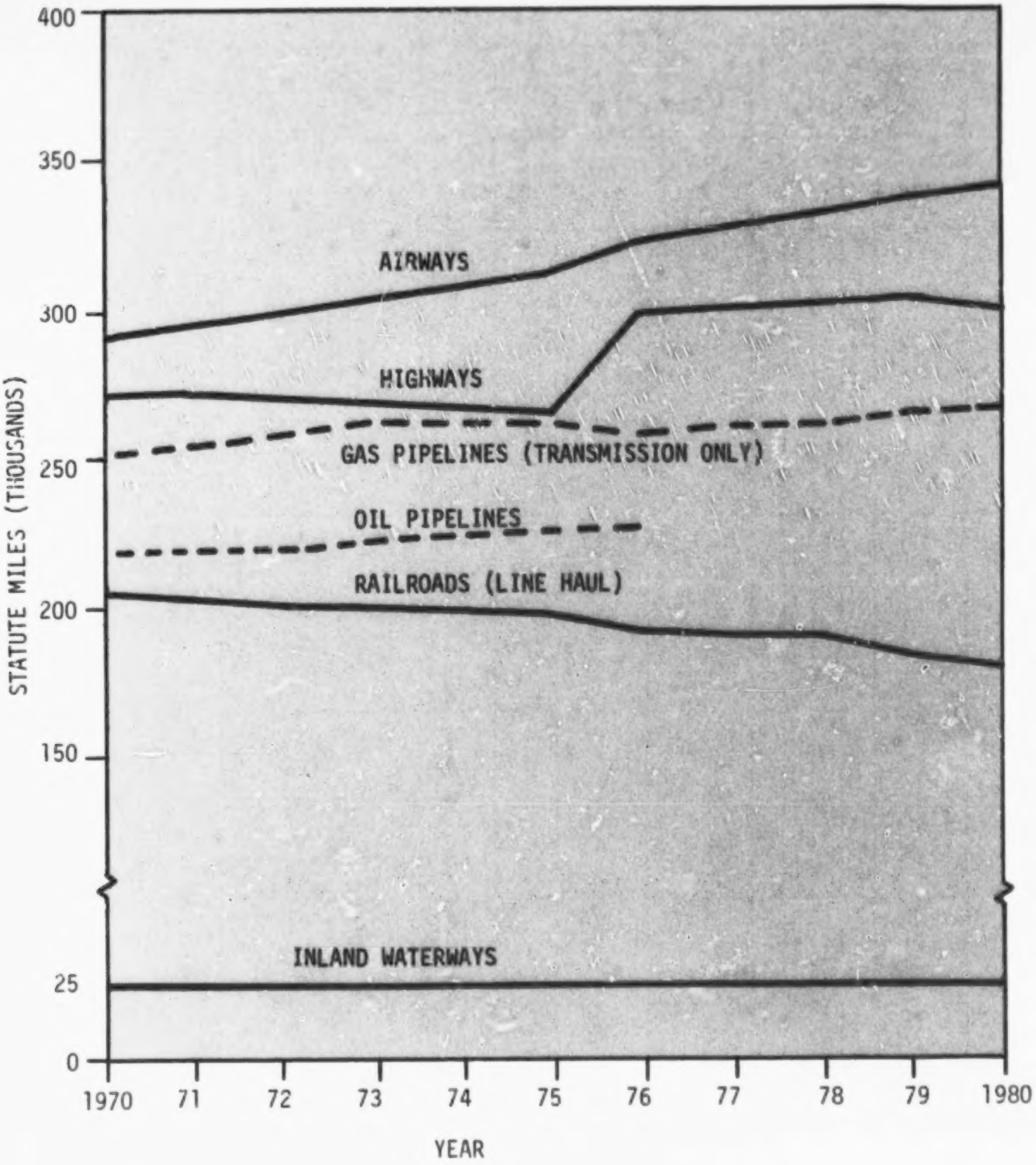

Figure 17. Basic Intercity Mileage Within the Continental United States, 1970- 1980

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Table 9. Number of Vehicles, 1970- 1980

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
Air Carrier											
Domestic and International certificated all services	2,495	2,536	2,518	2,467	2,412	2,434	2,420	2,441	2,406	2,478	2,605
Domestic and International supplemental	195	184	156	133	101	106	90	102	121	120	113
Total	2,690	2,720	2,674	2,600	2,513	2,540	2,510	2,543	2,527	2,598	2,718
General Aviation	131,743	131,148	145,010	153,540	161,502	168,475	178,301	184,294	198,778	210,339	211,045
Motorcycle	2,814,730	3,345,179	3,771,996	4,322,580	4,966,399	4,966,844	4,981,196	5,014,564	4,411,957	5,502,450	5,724,002
Passenger Car & Taxi	89,279,864	92,799,052	96,859,746	101,762,477	104,857,327	106,712,551	110,188,640	113,696,111	116,574,999	120,247,900	121,723,650
Intercity Bus	22,000	21,900	21,400	20,800	21,000	20,500	20,100	20,300 r	20,200 r	20,600 r	21,900 p
Local Transit											
Motorbus	49,700	49,150	49,075	48,286	48,700	50,811	52,382	51,968	52,866	54,490	59,411 p
Subway & Elevated	9,338	9,325	9,423	9,387	9,403	9,608	9,714	9,639	9,567	9,522	9,693 p
Surface Rail	1,262	1,225	1,176	1,123	1,068	1,061	963	992	944	950	1,013 p
Trolley Coach	1,050	1,037	1,036	794	718	703	685	645	593	725 r	823 p
Total	61,350	60,737	60,704	59,590	59,889	62,226**	63,787**	63,287**	64,013**	65,696**	70,983 p**
Class I Rail											
Freight Cars	1,423,921	1,410,160	1,381,038	1,356,914	1,339,223	1,314,135	1,268,735	1,232,080	1,166,517	1,118,381	1,123,665
Locomotives	25,086	27,189	27,074	27,454	27,627	27,846	27,215	27,283	26,900	27,043	27,763
Passenger Cars & Pullman	11,177	7,548	5,974	5,360	4,933	4,184	3,254	3,176	2,212	2,215	2,219
Total	1,462,184	1,444,897	1,414,085	1,389,686	1,371,783	1,346,165	1,299,203	1,262,539	1,195,776	1,146,639	1,153,647
Amtrak*											
Passenger Cars & Pullman		1,165	1,571	1,777	1,900	1,913	2,062	2,154	2,084	2,026	
Locomotives			285	352	357	355	379	369	444	437	
Truck											
Combinations	960,000	974,000	990,000	1,028,000	1,085,065	1,131,000	1,224,810	1,264,091	1,366,582	1,339,000	1,405,000
Single Unit	17,778,000	18,828,000	20,249,000	22,205,000	23,545,200	24,644,700	26,554,071	28,298,394	30,366,022	32,010,742	32,232,241
Total	18,748,000	19,802,000	21,239,000	23,233,000	24,630,200	25,775,700	27,778,881	29,562,485	31,702,604	33,349,742	33,637,241
Water Transport											
Total Inland Water Vessels	22,628	23,854	25,006	26,181	27,182	29,510	31,027	33,149	32,428	33,984	36,285
Non self propelled vessels											
Dry Cargo Barges & Scows	15,379	16,439	17,527	18,804	19,772	21,876	23,164	24,937	24,037	25,420	27,426
Tank Barges	3,001	3,186	3,420	3,313	3,375	3,534	3,623	3,770	3,916	4,000	4,166
Total	18,380	19,624	20,947	22,117	23,147	25,410	26,787	28,770	28,048	29,492	31,592
Self propelled vessels											
Towboats & Tugs	4,248	4,230	4,059	4,064	4,035	4,100	4,240	4,379	4,380	4,492	4,693
Oceangoing Steam & Motor Ships of 1,000 Gross Tons & Over	1,579	1,372	1,150	1,016	922	857	842	840	879	865	864
Total	24,207	25,226	26,156	27,197	28,104	30,367	31,869	33,989	33,307	34,849	37,149

n/a not available
p preliminary
r revised

*Amtrak established May 1, 1971

**Includes 39 cable cars, and 4 inclined plane cars, excludes 45 PRT transit vehicles

***Auto Train no longer Class I as of 1978

Source: See Appendix A p. 165

Table 10. Number of New Vehicles Purchased, By Mode, 1970- 1980

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
Air Carrier (All Services)											
Fixed-Wing Transports	311	230	230	295	263	314	238	180	225	160	n/a
General Aviation	7,384	7,450	9,765	13,671	14,026	14,043	15,648	16,624	16,456	17,048	n/a
Passenger Car and Taxi**	8,388,000	10,250,000	10,949,000	11,439,000	8,871,000	8,640,000	10,110,000	11,185,000	11,312,000	10,558,800	8,980,000
Motorcycles	1,125,000	1,565,000	1,725,000	1,255,000	1,580,000	990,000	740,000	970,000	1,015,000	1,010,000	1,250,000
Mopeds	–	–	–	–	13,000	32,000	78,000	190,000	350,000	130,000	180,000
Bicycles**	6,900,000	8,900,000	13,900,000	15,200,000	14,100,000	7,300,000	8,100,000	9,400,000	9,400,000	10,800,000	9,000,000
Truck (Domestic)	1,746,000	2,011,000	2,486,000	2,915,000	2,511,000	2,248,000	2,944,000	3,353,000	3,030,880	3,120,159	2,231,500
Intercity Bus (Class I)	867	831	917	833	626	733	619*	709	635	680	800^{e}
Local Transit											
Motor Bus	1,424	2,514	2,904	3,200	4,818	5,261	4,745	2,437^{p}	3,805	3,410	4,572^{p}
Subway and Elevated	0	0	0	0	0	0	4	62^{p}	35	70	32^{p}
Surface Rail	308	250	360	238	92	127	472	506^{p}	172	94	130^{p}
Trolley Coach	0	1	1	1	0	1	260	198^{p}	0	141	98^{p}
Total	1,732	2,764	3,265	3,439	4,910	5,389	5,481	3,203^{p}	4,012	3,745	4,832^{p}
Class I Railroad											
Freight Cars	56,031	45,408	37,931	34,171	36,315	41,692	30,836	27,098	28,003	28,640	31,193
Locomotives	1,029	1,179	1,377	1,165	1,018	772	438	820	1,214	1,700	1,466
Passenger Car and Pullman	302	281	334	73	85	158	44	20	42	43	44
Total	57,362	46,868	36,409	35,419	37,418	42,620	31,318	27,938	29,259	30,392	32,703
Amtrak (established 1971)											
Passenger Car and Pullman	–	–	0	10	0	109	305	133	1	56	108
Locomotives	–	–	0	67	362	30	58	4	75	39	17
Total	–	–	0	77	362	139	363	137	76	95	125
Water											
Merchant Vessels	13	15	15	30	20	15	16	18	14	15	23
Gross Tonnage	342,000	419,000	439,000	987,000	697,000	452,000	616,000	920,198	911,791	1,148,530	693,200

n/a = not available
e=estimate
*Change in Class I definition.
**Includes domestic and imported vehicles.

Source: See Appendix A, p. 167.

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Table 11. Passenger Fatalities per 100,000,000 Passenger Miles, 1970- 1980

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
Air Carrier Scheduled Domestic	0.00	0.15	0.13	0.10	0.12	0.08	0.00	0.04	0.01	0.12	0.01
Passenger Auto and Taxi	2.10	1.90	1.90	1.70	1.50	1.40	1.34	1.33	1.30	1.31	1.32
Buses	0.19	0.19	0.19	0.24	0.21	0.15	0.17	0.13	0.17	0.15	0.15
Railroad Passenger Trains	0.09	0.24	0.53	0.07	0.07	0.08	0.05	0.04^{r}	0.13	0.05	0.04
Motorcycles	20.90	18.18	15.45	14.54	12.72	10.00	11.81	14.45	18.18	16.36^{r}	19.09

r = revised
e = estimated
p = preliminary
Source: See Appendix A, p. 168.

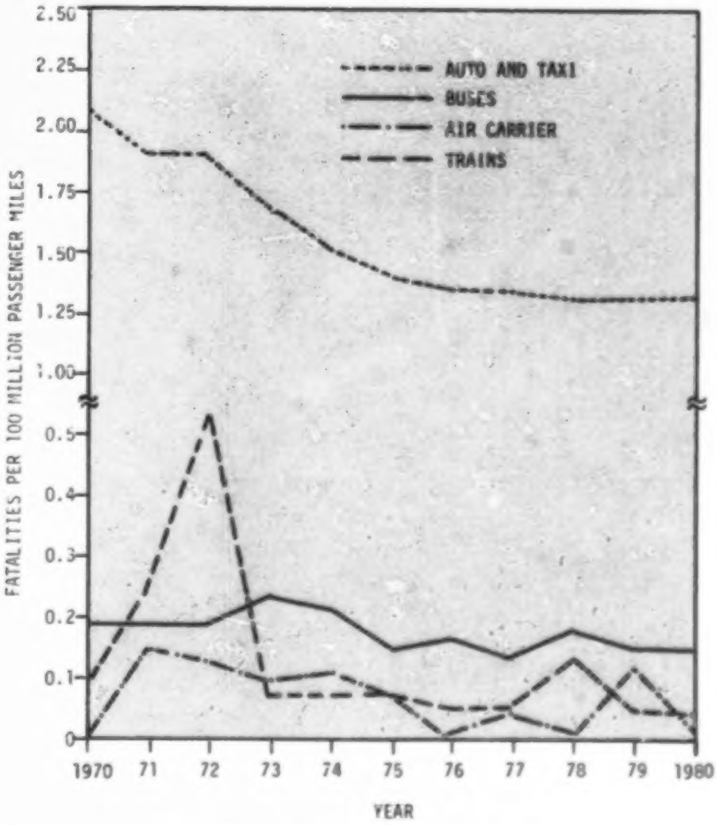

Figure 18. Passenger Fatalities per 100,000,000 Passenger Miles, 1970- 1980

SUPPLEMENTARY DATA
Section I: Transportation and the Economy
1970 — 1980

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Table 12. Personal Consumption Expenditures by Transportation Sector, 1970- 1980 (Millions of Dollars)

Item	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
Transportation Total	80,634	94,421	105,382	114,576	117,924	129,367	155,189	178,473	197,958	221,061	243,021
User-Operated Transportation											
Total	74,268	87,506	97,792	106,443	108,765	119,663	144,103	166,146	184,475	205,774	224,284
New Cars and Net Purchases of Used Cars	30,148	38,291	44,441	48,169	40,789	45,285	60,827	71,632	79,628	78,593	70,752
Tires, Tubes, Accessories and Parts	6,065	7,108	7,970	8,939	9,639	10,528	11,745	13,408	14,657	16,860	19,178
Repair and Rental	11,232	12,653	13,779	14,657	15,885	18,781	21,266	23,919	27,877	32,186	34,371
Gasoline & Oil	22,419	23,888	25,432	28,635	36,608	40,390	43,973	48,183	52,703	68,371	89,018
Tolls	652	702	763	803	782	817	861	900	955	982	946
Insurance Premiums Less Claims Paid	3,752	4,864	5,407	5,240	5,059	3,862	5,431	8,104	8,655	8,782	10,019
Purchased Local Transportation											
Total	2,988	3,260	3,440	3,460	3,683	3,990	4,375	4,672	4,915	5,242	6,081
Street, Electric, Railway and Local Bus	1,636	1,681	1,690	1,724	1,848	1,905	2,074	2,208	2,325	2,524	2,950
Taxicab	1,180	1,403	1,573	1,556	1,635	1,879	2,077	2,234	2,350	2,453	2,822
Railway (commutation)	172	176	177	180	200	206	224	230	240	265	309
Purchased Intercity Transportation											
Total	3,378	3,655	4,150	4,673	5,479	5,714	6,711	7,655	8,568	10,045	12,656
Railway (non-commutation)	214	184	214	241	316	308	342	350	337	405	462
Intercity	532	575	585	610	691	677	681	716	739	875	1,055
Airline	2,450	2,694	3,108	3,533	4,137	4,375	5,271	6,101	6,912	8,076	10,326
Other	182	202	243	289	335	354	417	488	580	689	813

Source: See Appendix A, p. 168.

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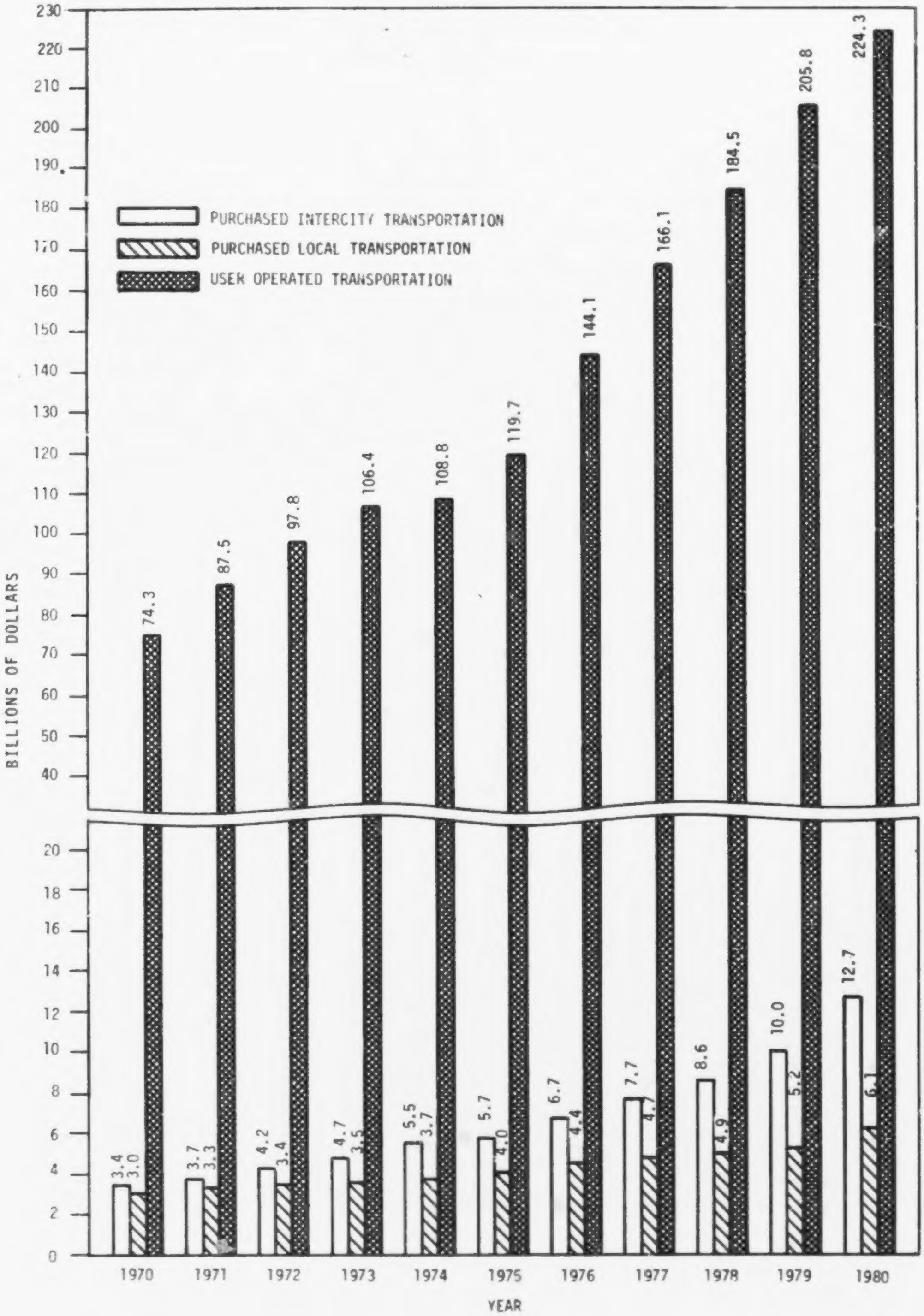
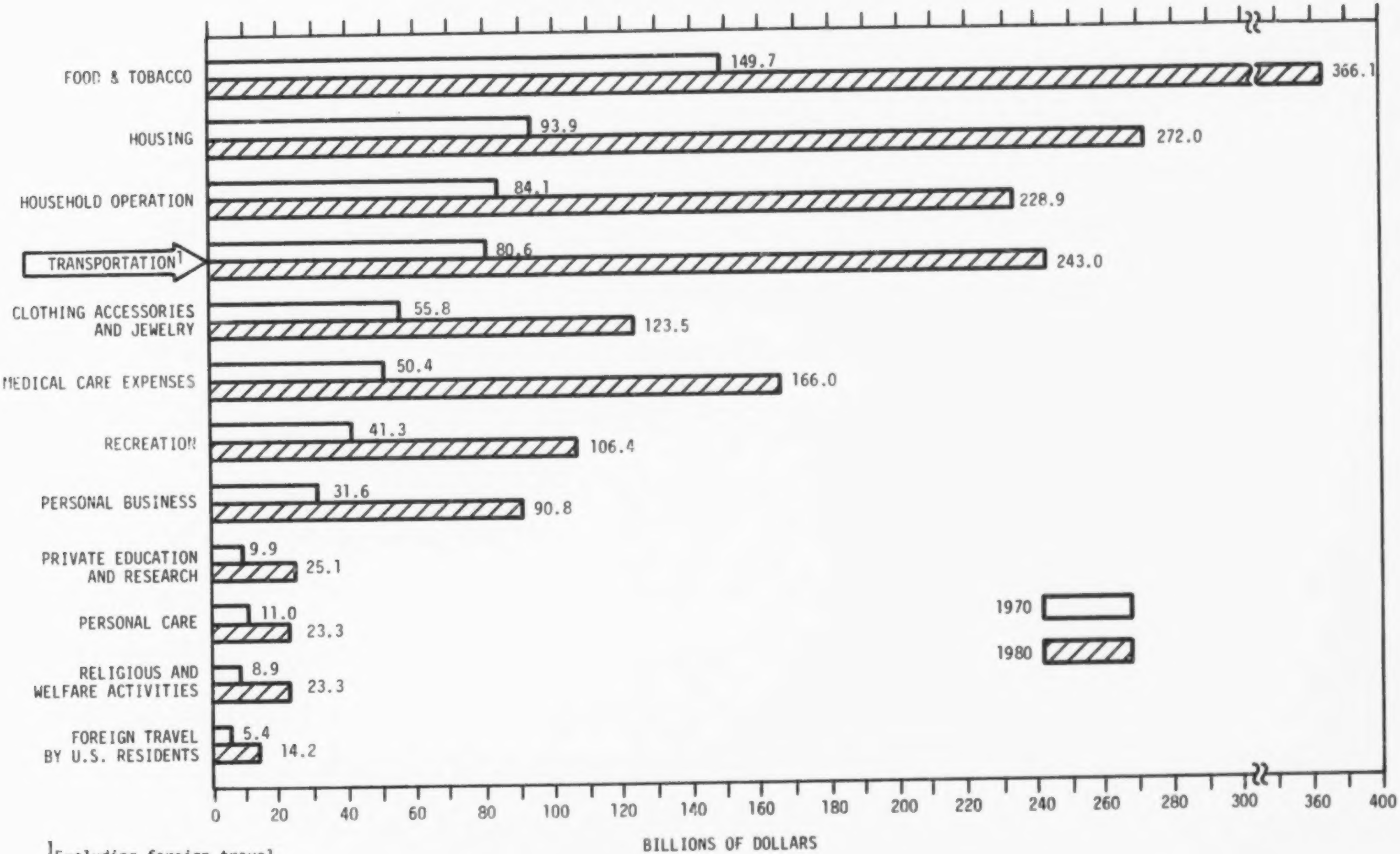


Figure 19. Personal Consumption Expenditures by Transportation Sector, 1970- 1980

Table 13. Personal Consumption Expenditures by Type of Product, 1970- 1980
(Millions of Dollars)

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
Food and tobacco	149,662	155,516	167.124	185,283	207,679	228,450	247,047	266,94	294,346	331,344	366,077
Clothing accessories and jewelry	55,780	59,802	65,123	72,019	76,024	81,579	88,566	96,323	107,832	116,234	123,494
Personal care	11,016	11,280	12,021	12,929	13,824	14,672	15,618	17,318	19,336	21,431	23,286
Housing	93,910	102,654	112,500	123,786	137,354	149,776	166,466	186,835	213,092	241,883	272,030
Household operation	84,079	89,306	98,541	109,919	121,345	132,870	148,312	165,737	183,885	206,815	228,948
Medical care expenses	50,415	55,769	62.200	69,148	77,266	87,632	98,418	114,136	127,427	144,443	165,968
Personal business	31,635	34,280	37,121	40,446	45,426	52,221	55,560	60,474	71,312	80,321	90,812
Transportation	80,634	94,421	105,382	114,576	117,924	129,367	155,189	178,473	197,958	221,061	243,021
Recreation	41,322	44,040	49,243	54,796	59,633	65,554	72,499	79,782	89,313	99,051	106,414
Private education and research	9,877	10,640	11,651	12,748	14,110	15,816	17,162	18,104	20,594	22,802	25,112
Religious and welfare activities	8,877	9,756	10,911	11,526	12,688	13,892	15,414	16,732	18,938	20,817	23,255
Foreign travel by U.S. residents	5,414	5,853	6,832	7,328	8,136	8,774	9,401	10,314	11,379	12,607	14,156
Total	622,621	673,317	738,649	814,504	891,409	980,593	1,089,652	1,211,171	1,355,412	1,518,809	1,682,573

Source: See Appendix A, p. 168.



[1] Excluding foreign travel

Figure 20. Personal Consumption Expenditures by Type of Product, 1970 and 1980

Table 14. National Income by Transportation Sector, 1970- 1980 (Millions of Dollars)

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
Total	30,308	32,964	36,889	41,189	45,190	45,690	52,863	60,140	68,858	76,341	81,174
Railway	7,612	7,981	8,406	9,552	10,297	10,202	11,913	13,112	14,592	16,984	16,789
Local, suburban, and highway passenger	2,308	2,476	2,498	2,432	2,672	2,886	3,129	3,445	3,608	3,957	4,291
Motor freight and warehousing	11,830	13,467	15,762	17,615	19,267	19,062	21,728	25,022	29,020	31,413	33,512
Water	2,503	2,358	2,520	2,848	3,414	3,439	3,821	4,005	4,711	5,220	6,148
Air	4,358	4,916	5,705	6,434	7,006	7,194	8,804	10,359	11,949	13,025	13,730
Pipeline	528	544	627	593	646	824	996	1,043	1,247	1,439	1,919
Transportation services	1,169	1,222	1,371	1,515	1,888	2,083	2,472	3,154	3,731	4,303	4,785

Source: See Appendix A, p. 168.

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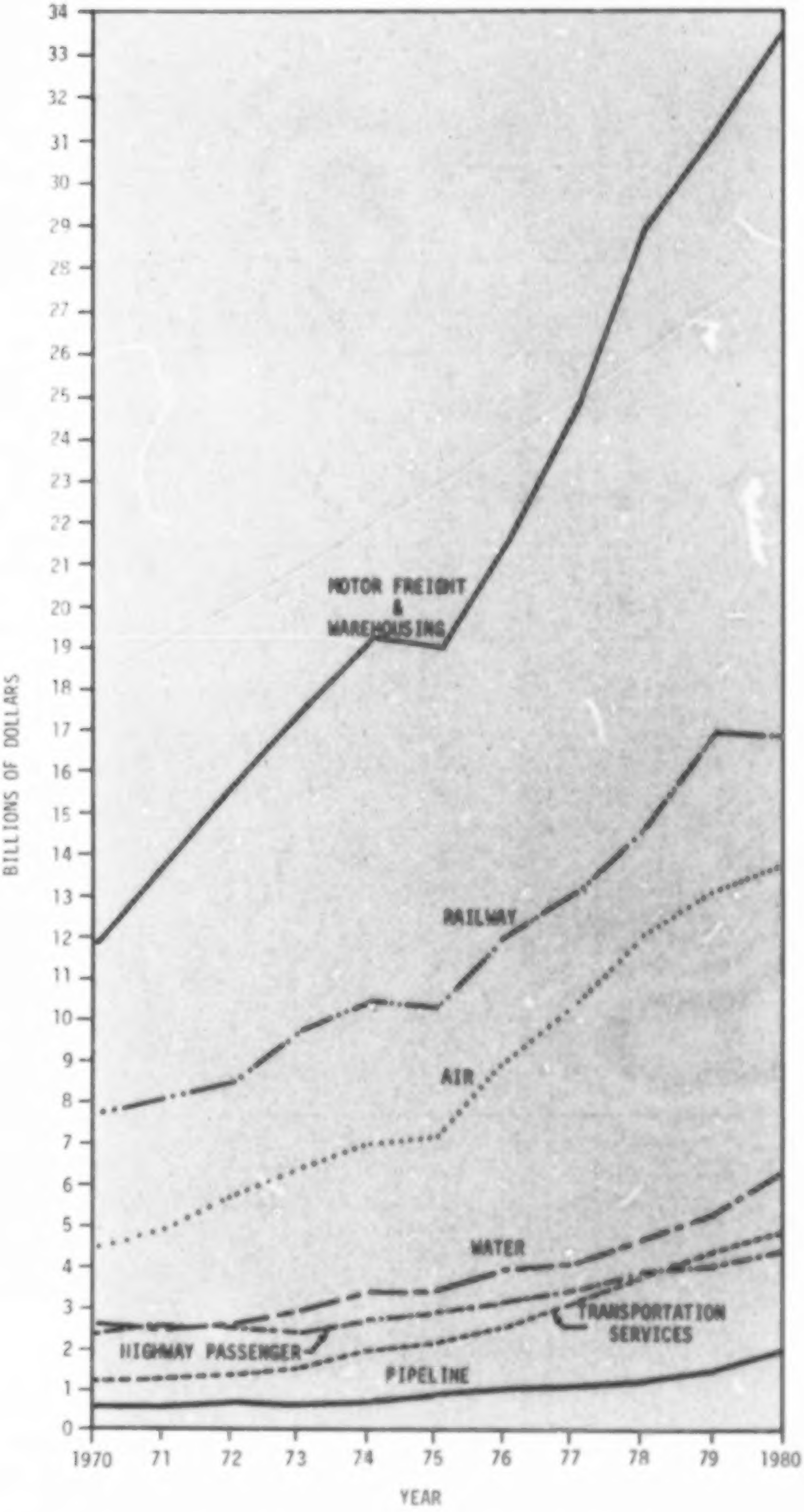

Figure 21. National Income by Transportation Sector, 1970- 1980

Table 15. Average Annual Earnings per Full-Time Employee by Transportation Sector, 1970- 1980
(Dollars)

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
Total	9,391	10,232	10,958	11,972	12,629	13,534	14,833	16,007	17,369	18,717	20,628
Railway	10,112	11,360	11,991	13,773	14,237	14,982	17,164	18,418	20,173	22,164	24,974
Local and interurban passenger transit	6,875	7,196	7,510	7,936	8,572	9,373	9,983	10,597	11,274	11,865	13,419
Trucking and warehousing	8,672	9,614	10,489	11,342	11,964	12,709	13,826	14,939	16,238	17,381	18,858
Water	10,283	10,522	10,995	12,005	12,880	14,247	15,549	17,192	18,672	20,482	23,030
Air	12,027	12,948	13,945	14,738	15,657	17,084	18,449	20,123	21,846	23,248	25,507
Pipeline	10,765	11,412	11,882	13,125	14,562	16,765	17,833	19,444	21,600	24,450	26,227
Transportation services	8,262	8,634	9,140	9,730	10,488	11,233	11,935	12,560	13,293	14,225	15,656

Source: See Appendix A, p. 168.

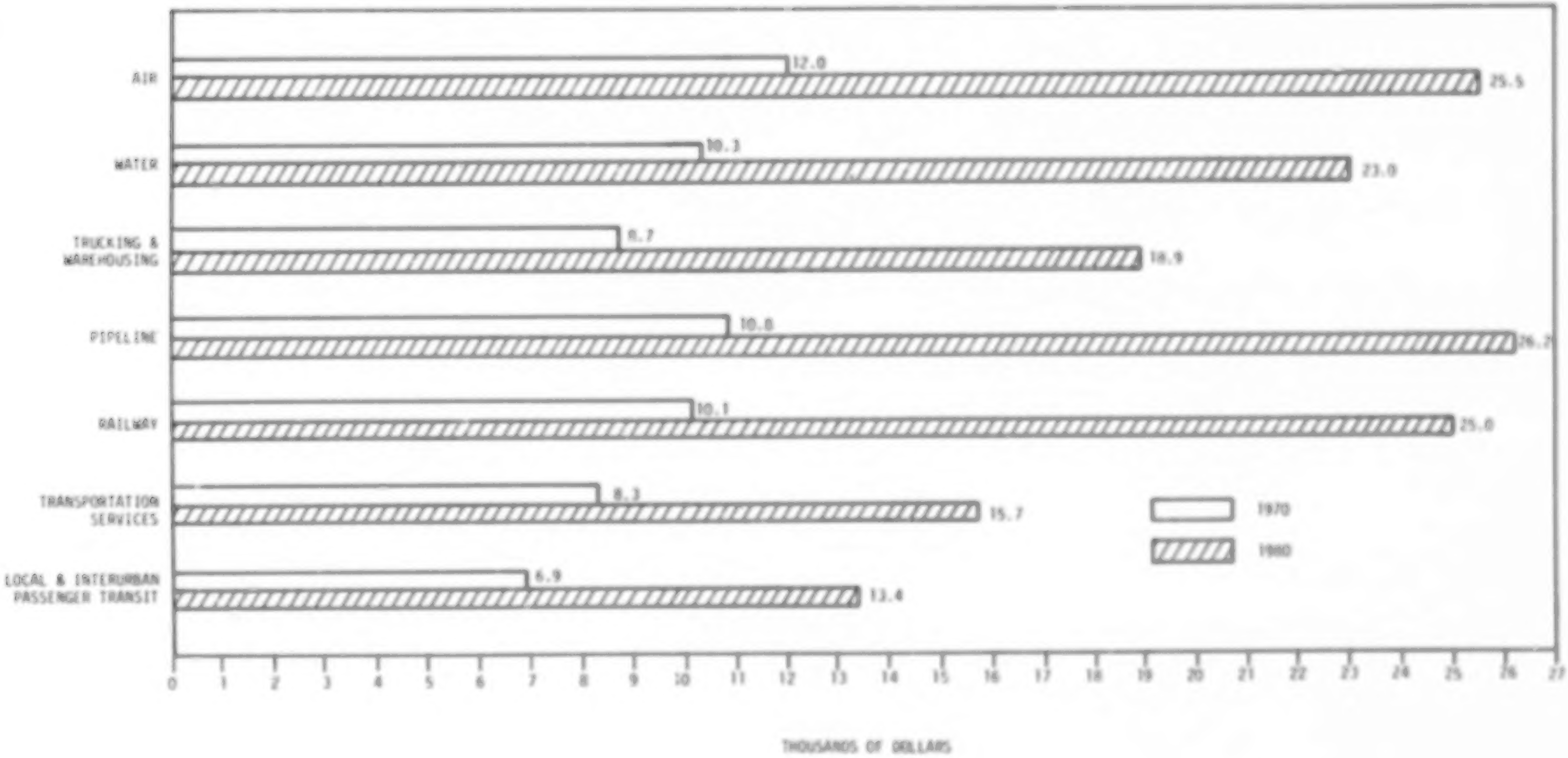

Figure 22. Average Annual Earnings per Full-Time Employee by Transportation Sector, 1970 and 1980

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Table 16. Wages and Salaries by Transportation Sector, 1970- 1980
(Millions of Dollars)

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
Total	24,350	26,049	28,042	31,582	33,720	34,173	37,987	42,466	48,198	54,147	58,314
Railway	6,269	6,691	6,799	7,782	8,172	8,105	8,994	9,743	10,611	11,924	12,637
Local and interurban passenger transit	1,808	1,878	1,900	1,976	2,143	2,287	2,396	2,522	2,672	2,907	3,301
Trucking and warehousing	9,036	10,133	11,422	13,032	13,866	13,560	15,305	17,493	20,233	22,439	23,214
Water	2,108	1,978	2,089	2,281	2,473	2,593	2,830	3,129	3,641	4,035	4,560
Air	4,029	4,208	4,588	5,114	5,480	5,894	6,494	7,345	8,389	9,764	11,019
Pipeline	183	194	202	210	233	285	321	350	432	489	577
Transportation services	917	967	1,042	1,187	1,353	1,449	1,647	1,884	2,220	2,589	3,006

Source: See Appendix A, p. 168.

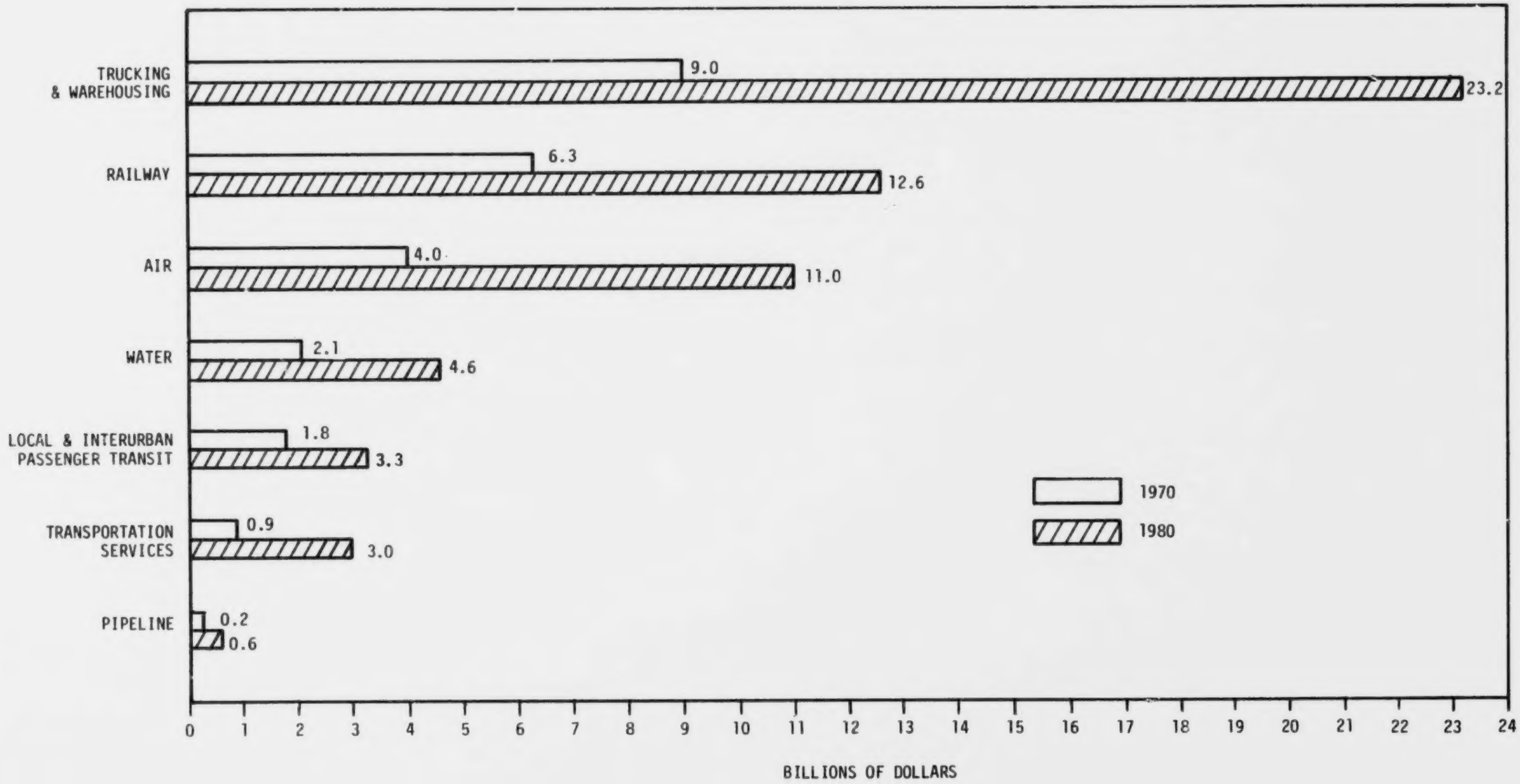

Figure 23. Wages and Salaries by Transportation Sector, 1970 and 1980

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Table 17. Employment in Transportation and Related Industries, 1970- 1980 (Thousands)

	1970	1971	1972	1973	1974	1975	1976	1977[r]	1978[r]	1979[r]	1980
TRANSPORT SECTOR											
Air	351	343	346	366	368	362	370	386	408	438	455
Bus — Intercity Highway	43	43	42	41	42	39	40	37	36	37	38
Local Transport	77	74	73	71	68	69	69	71	72	76	79
Railroad	627	599	575	572	583	538	528	545	539	556	536
Oil Pipeline	18	18	17	16	16	17	17	19	20	20	21
Taxi	107	105	99	97	93	83	77	70	64	60	54
Trucking and Warehousing	1,083	1,080	1,117	1,190	1,186	1,086	1,096	1,220	1,303	1,334	1,276
Trucking and Terminals	998	993	1,029	1,098	1,094	996	1,009	1,132	1,212	1,249	1,187
Public Warehousing	86	87	88	92	93	89	88	88	91	90	89
Water	215	198	209	201	204	190	197	196	209	216	212
Transportation Services	115	119	118	124	134	139	146	156	170	189	196
Total	2,636	2,579	2,596	2,678	2,694	2,513	2,540	2,700	2,821	2,931	2,867
EQUIPMENT MFG.											
Aircraft and Parts	669	533	511	533	543	514	485	482	527	611	655
Motor Vehicles and Equipment	914	963	986	1,083	1,021	892	948	1,077	1,132	1,117	884
Railroad Equipment	51	52	50	52	56	52	43	56	64	74	69
Ship and Boat Building and Rep.	170	170	185	197	201	194	214	224	226	226	220
Other	111	132	163	168	131	115	141	145	162	156	150
Total	1,915	1,850	1 895	2,033	1,952	1,767	1,831	1,984	2,111	2,184	1,988
RELATED INDUSTRIES											
Automotive and Acc. Retailers	1,010	1,041	1,102	1,161	1,115	1,076	1,116	1,093	1,148	1,149	1,054
Automotive Wholesalers	320	332	350	373	382	367	380	399	421	439	419
Automotive Services and Garages	384	384	414	436	441	400	447	498	549	575	573
Gasoline Service Stations	615	623	652	653	583	616	627	629	628	577	562
Highway and Street Construction	331	331	341	347	337	297	299	246	263	278	266
Petroleum	333	330	335	343	364	380	397	371	405	436	474
Other Industries:											
Truck Drivers and Deliverymen	1,356	1,350	1,344	1,337	1,331	1,325	1,319	1,313	1,307	1,300	n/a
Shipping and Receiving Clerks	359	371	383	395	407	419	431	443	455	466	n/a
Total	4,708	4,762	4,921	5,045	4,960	4,880	5,016	4,992	5,176	5,220	4,831
GOVERNMENT EMPLOYEES											
U.S. DOT	66	70	69	70	74	75	74	75	75	74	72
State and Local Highway	607	608	605	599	596	604	582	587	583	566	559
Post Office	103	102	98	97	99	98	94	91	92	93	92
Other	12	6	12	12	12	13	13	13	13	13	13
Total	788	786	784	778	781	790	763	766	761	746	736
Total Transportation	10,047	9,977	10,196	10,534	10,387	9,950	10,150	10,442	10,869	11,081	n/a
Total Civilian Labor Force	78,627	79,120	81,702	84,409	85,936	84,783	87,485	90,526	94,373	96,945	97,300
Percent Transportation	12.8%	12.6%	12.5%	12.5%	12.1%	11.7%	11.6%	11.5%	11.4%	11.1%	-

r = revised
n/a = not available

Source: See Appendix A, p. 169.

Table 18. National Transportation and Economic Trends, 1970- 1980
(billions)

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
Total Passenger-Miles	2,119	2,224	2,341	2,420	2,368	2,449	2,570	2,674	2,815	2,777	2,704
Index	117	122	129	133	130	135	141	147	155	153	149
Total Cargo Ton-Miles	2,207	2,225	2,330	2,452	2,442	2,285	2,423	2,531	2,875	2,952r	2,984
Index	111	112	117	123	123	115	122	127	145	149	150
Population (millions)	203	207	209	211	213	215	218	220	222	225	227
Index	103	105	106	107	108	109	110	111	112	114	115
Industrial Production Index	108	110	120	130	129	118	131	138	146	153	147
Gross National Product (current dollars)	977	1,055	1,158	1,307	1,413	1,529	1,700	1,887	2,128r	2,414r	2,626
Index	123	133	146	165	178	193	214	238	268	304	331

r = revised

Index = 100 in 1967.
Source: See Appendix A, p. 171.

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Table 19. Expenditures and Overseas Travel by U.S. Residents and Foreign Visitors, 1970- 1980

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980^p
U.S. Residents- Overseas Travelers (thousands)	5,260	5,667	6,790	6,933	6,467	6,354	6,897	7,390	7,790	7,835	8,163
Average Expenditures Overseas (dollars)	411	407	416	439	478	533	533	543	624	672	726
Total Travel and Passenger Fare Transactions (millions of dollars)	5,195	5,663	6,638	7,316	8,075	8,680	9,424	10,199	11,371	12,597	14,004
Travel payments in foreign countries (millions of dollars)	3,980	4,373	5,042	5,526	5,980	6,417	6,856	7,451	8,475	9,413	10,397
Passenger fare payments to foreign countries (millions of dollars)	1,215	1,290	1,596	1,790	2,095	2,263	2,568	2,748	2,896	3,184	3,607
Foreign Visitors to U.S. (thousands)	2,288	2,490	2,861	3,554	3,700	3,674	4,456	4,509	5,764	7,230	7,706
Average Expenditures of Visitors (dollars)	389	388	409	425	450	497	537	595	604	605	662
Total Travel and Passenger Fare Transactions (millions of dollars)	2,708	2,959	3,311	4,130	4,845	5,464	6,679	7,175	8,424	10,012	12,143
Travel receipts in U.S.	2,331	2,534	2,817	3,412	4,032	4,697	5,742	6,150	7,186	8,335	10,090
Passenger fare receipts in U.S. (millions of dollars)	377	425	494	718	813	767	937	1,025	1,238	1,677	2,053

p = preliminary

Source: See Appendix A, p. 172.

SUPPLEMENTARY DATA
Section II: Energy in Transportation

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Part 1. Energy Consumption

Table 20. Consumption of Energy by End-Use Sector
(Quadrillion Btu)
(at 5-Year Intervals 1950-1965 and Annually 1966-1980)

Year	Residential and Commercial	% of Total	Industrial and Misc.	% of Total	Transportation	% of Total	Electrical Utilities	% of Total	Total Energy Consumption
1950	7.58	22.5	12.18	36.2	8.84	26.3	5.03	15.0	33.62
1955	8.47	21.6	13.83	35.3	10.15	25.9	6.73	17.2	39.18
1960	10.42	23.6	14.95	33.9	10.48	23.8	8.23	18.7	44.08
1965	11.94	22.5	17.68	33.4	12.30	23.2	11.07	20.9	52.99
1966	12.42	22.2	18.50	33.0	13.04	23.3	12.03	21.5	55.99
1967	13.02	22.5	18.45	31.9	13.69	23.6	12.73	22.0	57.89
1968	13.44	21.9	19.16	31.2	14.80	24.1	13.92	22.7	61.32
1969	14.01	21.7	19.84	30.7	15.43	23.9	15.25	23.6	64.53
1970	14.35	21.5	20.14	30.1	16.03	24.0	16.29	24.4	66.83
1971	14.59	21.4	19.84	29.0	16.65	24.4	17.22	25.2	68.30
1972	14.96	20.9	20.46	28.6	17.63	24.6	18.58	25.9	71.63
1973	14.66	19.6	21.44	28.7	18.49	24.8	20.01	26.8	74.61
1974	13.95	19.2	20.65	28.4	18.00	24.7	20.16	27.7	72.76
1975	13.61	19.2	18.54	26.2	18.14	25.7	20.42	28.9	70.71
1976	14.39	19.3	19.54	26.2	19.03	25.5	21.55	28.9	74.51
1977	13.93	18.2	19.87	26.0	19.70	25.8	22.82	29.9	76.33
1978	14.13	18.1	19.91	25.5	20.58	26.3	23.52	30.1	78.15
1979	13.13	16.6	21.69	27.5	19.92	24.0	24.23	30.7	78.97
1980^p	12.23	16.0	20.62	27.0	18.59	24.4	24.82	32.5	76.27

Note: Sum of components may not equal due to independent rounding.

p = preliminary

Source: U.S. Department of Energy, *1980 Annual Report to Congress, Volume Two*, Table 4.

Table 21. U.S. Energy Consumption by the Transportation Sector (at 5-Year Intervals 1950-1965 and Annually 1966-1980)

Year	Coal[1]		Petroleum		Natural Gas[2]		Total Fossil Fuels	Sales of Electricity[3]		Total Transportation Consumption		Total Gross Energy Consumption
	Million Short Tons	Trillion[4] Btu	Million Barrels	Trillion[4] Btu	Trillion Cubic Feet	Trillion[4] Btu	Trillion Btu	Million Kilowatt-Hours	Trillion[4] Btu	Trillion Btu	% of Total Gross Energy Consumption	Quadrillion Btu
1950	63.0	1,651	1,248.3	7,053	0.13	135	8,839	5,881	20.1	8,859	26.4	33.62
1955	17.0	439	1,690.0	9,452	0.25	259	10,150	4,563	15.6	10,166	25.9	39.18
1960	3.0	80	1,862.9	10,041	0.35	362	10,483	4,770	16.3	10,499	23.8	44.08
1965	0.7	19	2,182.7	11,765	0.50	516	12,300	4,652	15.9	12,316	23.2	52.99
1966	0.6	16	2,314.1	12,473	0.54	558	13,047	4.514	15.4	13,062	23.3	55.99
1967	0.5	13	2,427.3	13,095	0.58	599	13,707	4,572	15.6	13,723	23.7	57.89
1968	0.4	11	2,627.9	14,185	0.59	608	14,804	4,540	15.5	14,820	24.2	61.32
1969	0.3	8	2,737.5	14,772	0.63	650	15,430	4,531	15.5	15,446	23.9	64.53
1970	0.3	8	2,832.4	15,284	0.72	742	16,034	4,633	15.8	16,050	24.0	66.83
1971	0.2	5	2,945.6	15,886	0.74	763.	16,654	4,537	15.5	16,670	24.4	68.30
1972	0.2	5	3,122.0	16,831	0.77	791	17,627	4,440	15.1	17,642	24.6	71.63
1973	0.1	3	3,288.7	17,752	0.73	745	18,500	4,186	14.3	18,514	24.8	74.61
1974	0.1	3	3,208.4	17,313	0.67	686	18,002	4,258	14.5	18,017	24.8	72.76
1975	*	**	3,252.2	17,546	0.58	592	18,138	4,273	14.6	18,153	25.7	70.71
1976	*	**	3,422.1	18,479	0.55	560	19,039	4,338	14.8	19,054	25.6	74.51
1977	*	**	3,544.2	19,153	0.53	540	19,693	4,212	14.4	19,707	25.8	76.33
1978	*	**	3,704.8	20,050	0.53	538	20,588	4,336	14.8	20,603	26.4	78.15
1979	*	**	3,566.1	19,310	0.60	611	19,921	4,243	14.5	19,936	25.2	78.97
1980[p]	*	**	3,323.3[e]	17,976	0.59	601	18,577	4,288	14.6	18,592	24.4	76.27

Note: Sum of components may not equal due to independent rounding.

p = preliminary e = estimated r = revised

*Less that 0.05 millions short tons.

**Less that 1 trillion Btu's.

[1] Bituminous Coal and Lignite only.

[2] Pipeline fuel.

[3] Includes only energy used by Railroads and Railways.

[4] Btu's derived by multiplying by conversion factors on p. 231 for bituminous coal and lignite consumption by Non-Utility, p. 230 for Natural Gas consumption by Non-Utility, p. 228 for petroleum in Transportation Use, and p. 227 for Electricity consumption, DOE, *1980 Annual Report to Congress, Volume Two.*

Source: U.S. Department of Energy, *1980 Annual Report to Congress, Volume Two.*
Coal: Table 54; Petroleum: Table 29; Natural Gas: Table 46; Total Gross Energy Consumption: Table 4.
Edison Electric Institute, *Statistical Year Book*, 1978, 1971 and *Historical Statistics Through the Year 1970.*
Sales of Electricity: 1950-1978: Ibid., Section IV, Table 19s; 1979-1980: Ibid., Source and Disposition of Electricity, Dec. 1980.

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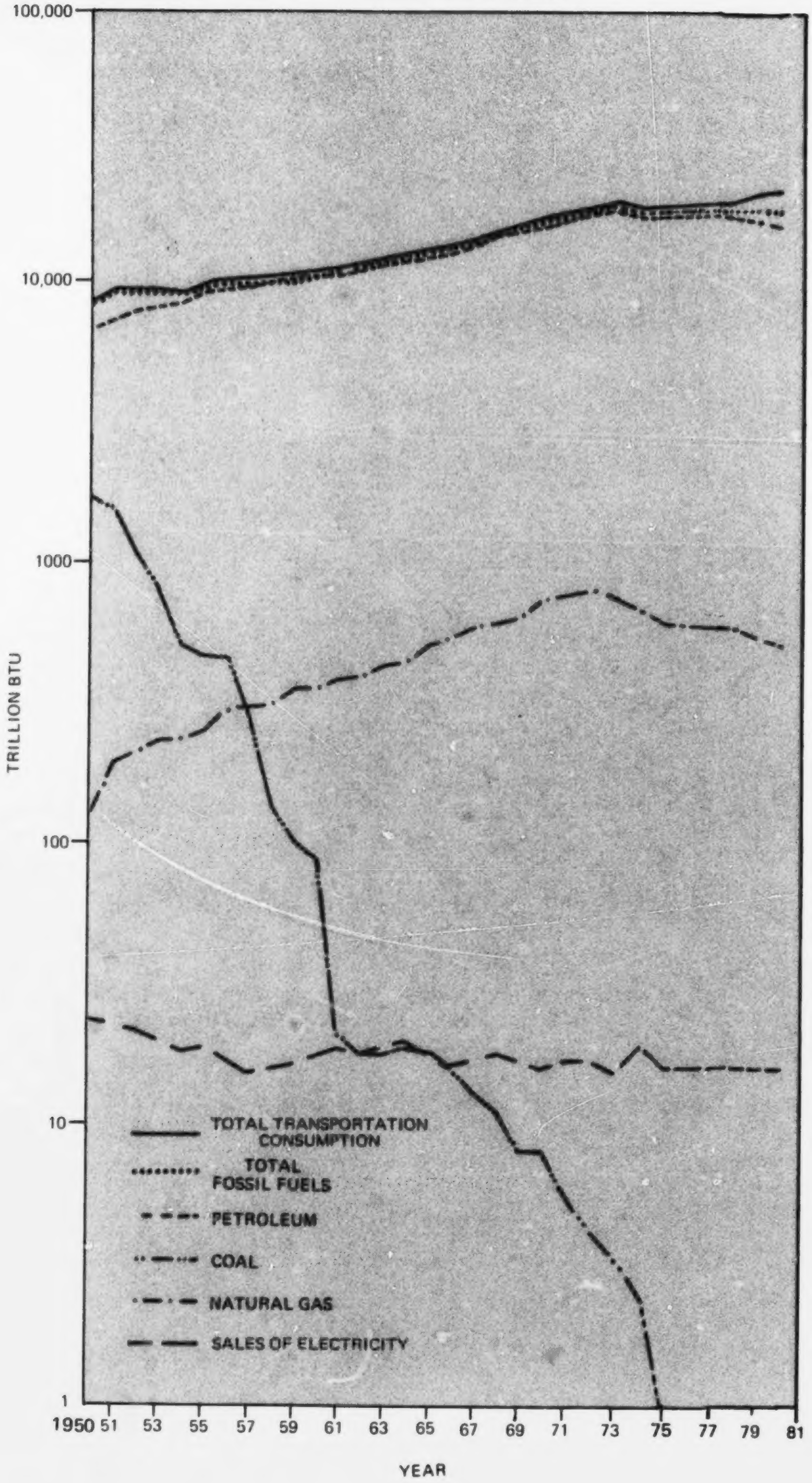

Figure 24. Energy Consumption: Transportation Sector, 1950-1980

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Table 22. Fuel Consumption by Mode of Transportation, 1970- 1980

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
Class I Railroads											
Locomotives											
Diesel Oil, gals × 10^6	3,800	3,819	3,999	4,141	4,112	3,732	3,890	3,982	3,966	4,069	3,942
Electricity, KWH × 10^6	578	534	435	346	467	422	353	417	331	309	190
Coal, tons	1,238	1,191	1,400	1,202	1,160	1,160	1,421	1,569	1,275	1,421	908
Motor Cars											
Diesel Oil, gals × 10^6	8	4	3	3	4	4	5	3	2	3	2
Electricity, KWH × 10^6	763	756	715	901	847	857	790	986	991	1,062	968
Air											
Certified Carriers											
Aviation Gasoline, gals × 10^6	14	12	13	11	7	6	n/a	n/a	n/a	n/a	n/a
Jet Fuel, gals × 10^6	10,085	10,140	10,302	10,671	9,546	9,507	9,808†	10,268†	10,639†	11,369†	11,034†
General Aviation[3]											
Aviation Gasoline, gals × 10^6	551	508	584	411	443	412	432	456	518	570	520
Jet Fuel, gals × 10^6	208	226	245	304	357	453	495	536	763	736	766
Highway											
Gasoline, gals × 10^6											
Pass. Cars + Taxis	65,649	69,213	73,121	77,619	73,770	76,010	78,398	80,225	83,312	79,793	73,375
Motorcycles	135	301	342	392	447	447	448	451	463	440	360
Diesel + Gasoline, gals × 10^6											
Commercial Buses[2]	644	631	561	520	525	553	574	583	615	618	696
School Buses	300	316	320	327	333	342	390	401	407	405	380
Single-unit Trucks[1]	17,237	18,221	22,118	22,755	21,125	21,868	24,914	26,255	27,780	28,544	29,241
Combination Trucks	8,363	8,865	8,600	8,860	10,101	9,764	10,975	11,709	12,491	12,315	10,909
Water Transport											
Residual Fuel Oil, gals × 10^6	3,774	3,307	3,273	3,881	3,824	4,060	4,933	5,417	6,615	8,003	8,952
Distillate Fuel Oil, gals × 10^6	819	880	929	1,125	1,040	1,098	1,190	1,408	1,579	1,631	1,183
Gasoline, gals × 10^6	598	645	687	717	697	730	764	774	812	780	1,052
Transit											
Electricity, KWH × 10^6											
Rapid Transit	2,261	2,262	2,149	2,098	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Surface Rail	157	153	146	140	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Trolley	143	141	133	93	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total	2,561	2,556	2,428	2,331	2,630	2,646	2,576	2,303	2,223	2,473	2,446
Gallons of Motor Fuel, gals × 10^6											
Gasoline	37	29	20	12	7	5	5	8	9	9	11
Diesel Oil	271	257	253	283	316	365	389	403	422	423^r	441
Propane	31	27	24	15	3	3	1	1	0	0	0
Pipelines											
Natural Gas, cu. ft. × 10^6	722,166	712,592	766,156	728,177	668,834	582,963	548,323	532,669	530,151	600,964	634,622
Total[4] Non-Highway Use of Gasoline × 10^6	4,003	3,913	3,824	3,896	3,623	3,642	3,778	3,725	3,577	3,645	3,655

r = revised
p = preliminary
n/a = not available

[1] Includes non-freight truck movements.
[2] Includes intercity and urban buses.
[3] Data for 1970-1972 calculated by method different from that used for 1973-1980 data.
[4] Private, commercial, and public non-highway use of gasoline.
†Includes Aviation Gasoline.

Source: See Appendix A, p. 172.

Table 23. Total Motor Vehicle Fuel Consumption and Travel[1], 1970- 1980

Year	Number Registered (thousands)	Total Vehicle Miles Traveled (millions)	Average Miles Traveled per Vehicle	Average Miles Traveled per Gallon	Total Fuel Consumed (millions of gallons)	Average Gallons Consumed per Vehicle
1970	111,222	1,120,705	10,076	12.14	92,328	830
1971	116,344	1,186,289	10,198	12.16	97,547	838
1972	122,304	1,268,342	10,370	12.07	105,062	859
1973	129,778	1,308,562	10,083	11.85	110,473	851
1974	134,900	1,285,647	9,530	12.09	106,301	788
1975	137,917	1,330,074	9,644	12.20	108,984	790
1976	143,427	1,411,990	9,844	12.20	115,700	807
1977	148,785	1,476,567	9,926	12.34	119,625	804
1978	153,920	1,548,213	10,059	12.38	125,067	813
1979	159,621	1,529,133	9,580	12.52	122,115	765
1980	161,614	1,520,857	9,410	13.23	114,960	711

[1] For the 50 states and District of Columbia, includes personal passenger vehicles, buses, and motor trucks.

Source: U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics*, Table VM-1, annual issues.

Table 24. Fuel Consumption and Travel by Personal Passenger Vehicles[2], 1970- 1980

Year	Number[1] Registered (thousands)	Total[1] Vehicle Miles Traveled (millions)	Average Miles Traveled per Vehicle			Average Miles Traveled per Gallon			Total Fuel Consumed (millions of gallons)			Average Gallons Consumed per Vehicle		
			Passenger Cars	Motor-cycles	All Personal Passenger Vehicles	Passenger Cars	Motor-cycles	All Personal Passenger Vehicles	Passenger Cars	Motor-cycles	All Personal Passenger Vehicles	Passenger Cars	Motor-cycles	All Personal Passenger Vehicles
1970	92,095	900,992	9,978	3,605	9,783	13.57	75	13.70	65,649	135	65,784	735	48	714
1971	96,144	954,155	10,121	4,500[3]	9,926	13.57	50[3]	13.73	69,213	301	69,514	746	90[3]	723
1972	100,658	1,003,498	10,184	4,500	9,969	13.49	50	13.67	73,121	342	73,463	755	90	730
1973	106,119	1,036,455	9,992	4,498	9,767	13.10	50	13.29	77,619	392	78,011	763	90	736
1974	109,823	1,013,068	9,448	4,500	9,225	13.43	50	13.65	73,770	447	74,217	704	90	676
1975	111,679	1,050,472	9,634	4,500	9,406	13.53	50	13.74	76,010	447	76,457	712	90	685
1976	115,170	1,098,179	9 ,763	4,500	9,535	13.72	50	13.93	78,398	448	78,847	711	90	685
1977	118,711	1,141,215	9,839	4,500	9,613	13.94	50	14.15	80,225	451	80,677	706	90	680
1978	121,717	1,194,231	10,046	4,500	9,812	14.06	50	14.26	83,312	463	83,775	715	90	688
1979	125,750	1,162,528	9,485	4,000	9,245	14.29	50	14.49	79,793	440	80,233	664	80	638
1980	127,448	1,129,887	9,135	3,144	8,865	15.15	50	15.32	73,375	360	73,735	603	63	579

[1] Includes motorcyles.

[2] For the 50 states and District of Columbia.

[3] Significant differences in values for 1971 and the corresponding values for 1970 represents a change in the basic assumptions of miles per vehicle and miles per gallon, not a shift in the trend.

Source: U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics*, Table VM-1, annual issues.

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Table 25. Fuel Consumption and Travel by Buses[1], 1970- 1980

Year	Number[1] Registered (thousands)	Total[2] Vehicle Miles Traveled (millions)	Average Miles Traveled per Vehicle			Average Miles Traveled per Gallon			Total Fuel Consumed (millions of gallons)			Average Gallons Consumed per Vehicle		
			Commercial	School	All Buses	Commercial	School	All Buses	Commercial	School	All Buses	Commercial	School	All Buses
1970	379	5,043	32,591	7,274	13,306	4.57	7.00	5.34	644	300	944	7,132	1,039	2,491
1971	398	5,097	31,949	7,198	12,819	4.57	7.00	5.38	631	316	947	6,988	1,028	2,382
1972	407	5,109	30,968	7,414	12,553	4.39	7.37	5.80	561	320	881	6,318	1,006	2,165
1973	426	4,960	28,469	7,178	11,662	4.90	7.37	5.86	520	327	847	5,810	973	1,991
1974	447	5,060	28,968	6,865	11,320	4.97	7.36	5.90	525	333	858	5,827	933	1,919
1975	462	5,148	28,230	6,788	11,140	4.79	7.31	5.75	553	342	895	5,896	929	1,937
1976	478	5,761	29,936	7,502	12,044	5.05	7.34	5.98	574	390	964	5,928	1,022	2,015
1977	492	5,887	30,011	7,491	11,973	5.04	7.35	5.98	583	401	984	5,955	1,019	2,002
1978	500	6,076	30,377	7,500	12,143	5.02	7.35	5.95	615	407	1,021	6,051	1,020	2,041
1979	520	6,105	29,691	7,179	11,732	5.06	7.36	5.97	618	405	1,023	5,872	976	1,966
1980	529	6,400	32,765	7,592	12,103	5.03	7.64	5.95	696	380	1,076	6,516	994	2,034

[1] For the 50 states and District of Columbia.

[2] Includes commercial, school and non-revenue buses.

Source: U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics*, Table VM-1, annual issues.

Table 26. Fuel Consumption and Travel by Motor Trucks, 1970- 1980

Year	Number Registered (thousands)	Total Vehicle Miles Traveled (millions)	Average Miles Traveled per Vehicle			Average Miles Traveled per Gallon			Total Fuel Consumed (millions of gallons)			Average Gallons of Fuel Consumed per Vehicle		
			Single-unit Trucks	Combinations	All Trucks	Single-unit Trucks	Combinations	All Trucks	Single-unit Trucks	Combinations	All Trucks	Single-unit Trucks	Combinations	All Trucks
1970	18,748	214,670	9,807	41,903	11,450	10.12	4.81	8.39	17,237	8,363	25,600	969	8,711	1,365
1971	19,802	227,037	9,794	43,779	11,465	10.12	4.81	8.38	18,221	8,865	27,086	968	9,102	1,368
1972	21,239	259,735	10,525	47,084	12,229	9.63	5.42	8.46	22,118	8,600	30,718	1,092	8,687	1,446
1973	23,233	267,147	9,868	46,716	11,538	9.63	5.42	8.45	22,755	8,860	31,615	1,025	8,620	1,361
1974	24,630	267,519	8,981	51,667	10,861	10.01	5.55	8.57	21,125	10,101	31,226	897	9,310	1,269
1975	25,776	274,454	8,882	49,125	10,648	10.01	5.69	8.68	21,868	9,764	31,632	887	8,633	1,227
1976	27,779	307,950	9,369	48,297	11,086	9.99	5.39	8.58	24,914	10,975	35,890	938	8,961	1,292
1977	29,562	329,465	9,400	50,206	11,145	10.13	5.42	8.68	26,255	11,709	37,964	928	9,263	1,284
1978	31,703	347,906	9,249	49,267	10,974	10.10	5.39	8.64	27,780	12,491	40,271	916	9,141	1,270
1979	33,350	360,500	9,184	49,664	10,810	10.30	5.40	8.82	28,544	12,315	40,859	892	9,197	1,225
1980	33,637	384,570	10,070	42,705	11,433	11.10	5.50	9.58	29,241	10,909	40,150	907	7,764	1,194

Source: U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics*, Table VM-1, annual issues.

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Table 27. Fuel Consumption by Certificated Air Carriers, 1970- 1980
(Scheduled and Nonscheduled Service)
(Thousands of Gallons)

		Domestic Operations								International and Territorial Operations		
			Passenger/Cargo Carriers									
Year	Total Certificated Route Air Carriers	Total Domestic Operations	Total	Domestic Trunk	Local Service	Other[1]	Intra-Alaska	Intra-Hawaii	All-Cargo Carriers	Total	Passenger/Cargo Carriers	All-Cargo Carriers
1970	10,099,172	7,856,593	7,796,375	7,106,903	618,126	30,617	10,839	29,890	60,218	2,242,579	2,013,883	228,696
1971	10,152,195	7,798,954	7,740,388	7,050,556	619,151	29,295	12,364	29,022	58,566	2,353,241	2,113,200	240,041
1972	10,180,102	7,753,262	7,685,374	7,172,159	649,397	1,090	38,899	33,187	67,888	2,426,839	2,178,294	248,545
1973	10,699,779	8,354,484	7,263,964	7,450,949	727,633	1,480[2]	44,661[2]	37,297	90,520	2,345,294	2,143,420	201,875
1974	9,553,792	7,508,899	7,423,640	6,612,145	720,372	1,492[2]	50,205[2]	37,307	85,260	2,044,893	1,864,685	180,208
1975	9,506,600	7,557,700	7,483,400	6,650,000	725,800	8,500	61,700	37,400	74,300	1,948,900	1,756,700	192,200
1976	9,808,051	8,008,306	7,914,145	7,043,139	766,019	6,400	56,573	42,015	94,161	1,799,745	1,635,266	164,479
1977	10,268,024	8,416,730	8,313,477	7,373,856	828,195	8,943	54,289	48,194	103,253	1,851,294	1,683,513	167,781
1978	10,639,227	8,726,033	8,561,973	7,527,587	918,531	11,558	58,276	46,021	164,060	1,913,194	1,741,918	171,276
1979	11,368,702	9,376,064	9,205,459	7,848,761	1,017,118	218,246	68,425	52,909	170,605	1,992,638	1,830,001	162,637
1980	11,034,038	9,096,323	8,938,874	7,424,555	1,094,678	295,062	80,498	44,081	157,449	1,937,715	1,764,506	173,209

n/a = not available
r = revised

Note: Individual figures may not add up because of rounding.

[1] Includes helicopter carriers.

Source: 1970-1975: CAB, *Handbook to Airline Statistics*, 1973, Part II, Table 57, and advance information based on CAB Form 41, Schedule T-2(b), *Quarterly Reports*.
1976-1980: CAB, *Fuel Cost and Consumption, Twelve Months Ended December 31*, 1980 and 1979, Tables 1, 2, 3, 4, 6, and 7, and similar tables in earlier editions.

Table 28. Motor Fuel and Energy Consumption by the U.S. Transit Industry (at 5-Year Intervals 1950-1965 and Annually 1966- 1980)

	Kilowatt Hours Consumed (In Millions)				Gallons of Motor Fuel Used (In Thousands)		
Year	Heavy Rail	Light Rail	Trolley Coach	Total	Gasoline	Diesel Oil	Propane
1950	2,000	2,410	841	5,251	430,000	98,600	*
1955	1,900	910	720	3,530	246,000	172,600	30,300
1960	2,098	393	417	2,908	153,600	208,100	38,300
1965	2,185	218	181	2,584	91,500	248,400	32,700
1966	2,075	226	166	2,467	76,000	256,000	33,600
1967	2,194	180	157	2,531	57,800	270,300	33,000
1968	2,250	179	157	2,586	45,700	274,200	32,200
1969	2,291	173	154	2,618	40,000	273,800	31,600
1970	2,261	157	143	2,561	37,200	270,600	31,000
1971	2,262	153	141	2,556	29,400	256,800	26,500
1972	2,149	146	133	2,428	19,647	253,250	24,400
1973	2,098	140	93	2,331	12,333	282,620	15,152
1974	n/a	n/a	n/a	2,630	7,457	316,360	3,142
1975	n/a	n/a	n/a	2,646	5,017	365,060	2,559
1976	n/a	n/a	n/a	2,576	5,203	389,187	960
1977	n/a	n/a	n/a	2,303	8,077	402,842	1,196
1978	n/a	n/a	n/a	2,223	9,318	422,017	13
1979	n/a	n/a	n/a	2,473	8,961	423,212^{r}	12
1980^{p}	n/a	n/a	n/a	2,446	11,400	441,300	n/a

n/a = not available
p = preliminary
r = revised

*Propane included with gasoline

Source: American Public Transit Association, *Transit Fact Book*, 1981 edition, Table 17.

Table 29. Domestic Demand for Refined Petroleum Consumption by End-Use Sector (Million Barrels per Day) (At 5-Year Intervals 1950-1965 and Annually 1966-1980)

Year	Residential and Commercial	Industrial	Transportation	Transportation as % of Total	Electric Utilities[1]	Total
1950	1.44	1.30	3.42	53.0	0.29	6.46
1955	1.90	1.70	4.63	54.7	0.22	8.46
1960	2.42	2.04	5.09	51.9	0.25	9.80
1965	2.74	2.46	5.98	52.0	0.33	11.51
1966	2.76	2.59	6.34	52.5	0.40	12.08
1967	2.87	2.60	6.65	52.9	0.45	12.56
1968	2.97	2.72	7.18	53.6	0.53	13.39
1969	3.06	2.86	7.50	53.0	0.71	14.14
1970	3.13	2.88	7.76	52.8	0.93	14.70
1971	3.13	2.89	8.07	53.1	1.12	15.21
1972	3.24	3.21	8.53	52.1	1.38	16.37
1973	3.25	3.44	9.01	52.1	1.62	17.31
1974	2.96	3.36	8.79	52.8	1.54	16.65
1975	2.81	3.18	8.91	54.6	1.42	16.32
1976	3.04	3.56	9.35	53.6	1.51	17.46
1977	3.02	3.93	9.71	52.7	1.77	18.43
1978	3.02	4.00	10.15	53.8	1.68	18.85
1979	2.43	4.82	9.77	52.8	1.49	18.51
1980[2]	2.13	4.51	9.08	53.3	1.31	17.03

Note: Sum of components may not equal due to independent rounding.

[1] These data are deliveries to electric utilities and do not equate to consumption by electric utilities.

[2] Estimated.

Source: U.S. Department of Energy, *1980 Annual Report to Congress*, Volume Two, Table 29.

Table 30. Domestic Demand for Refined Petroleum Products by End-Use Sector (Trillion Btu's per Day)[1] (at 5-Year Intervals 1950-1965 and Annually 1966- 1980

Year	Residential and Commercial	Industrial	Transportation	Transportation as % of Total	Electric Utilities[2]	Total
1950	8.14	7.35	19.32	52.9	1.64	36.50
1955	10.63	9.51	25.90	54.7	1.23	47.32
1960	13.92	11.52	27.44	50.4	1.57	54.45
1965	15.74	13.63	32.23	50.6	2.07	63.67
1966	15.88	14.32	34.17	51.1	2.51	66.83
1967	16.39	14.23	35.88	51.8	2.83	69.27
1968	16.91	14.76	38.76	52.6	3.32	73.70
1969	17.32	15.36	40.47	52.1	4.45	77.66
1970	17.76	15.45	41.87	51.8	5.81	80.89
1971	17.75	15.46	43.52	52.0	6.99	83.72
1972	18.33	17.07	45.99	51.1	8.58	90.04
1973	18.48	18.32	48.64	51.0	10.08	95.46
1974	16.82	17.82	47.43	51.8	9.57	91.64
1975	15.89	16.87	48.07	53.6	8.85	89.66
1976	17.21	19.00	50.49	52.5	9.41	96.10
1977	17.11	21.10	52.47	51.6	11.03	101.70
1978	17.16	21.48	54.93	52.8	10.46	104.03
1979	13.76	25.73	52.90	52.0	9.31	101.69
1980[3]	12.00	24.26	49.11	52.5	8.18	93.56

Note: Sum of components may not equal due to independent rounding.

[1] Data derived by multiplying figures on source page by conversion factors in Consumption of Petroleum Products column by each end-use sector column on page 228 in D.O.E.'s *1980 Annual Report to Congress*, Volume Two.

[2] These data are deliveries to electric utilities and do not equate to consumption by electric utilities.

[3] Estimated.

Source: U.S. Department of Energy, EIA, *1980 Annual Report to Congress*, Volume Two, Table 29.

Table 31. Deliveries of Residual Fuel Oil by Use
(Thousands of Barrels)
(at 5-Year Intervals 1950-1970 and Annually 1971-1980)

Year	Vessel Bunkering	Gas and Electrical Public-Utility Plants*	Railroads	Oil Company Use	Industrial Use (Except Oil Cos.)	Heating Oils	Military Use	Misc. Uses	Total
1955	115,128	75,966	15,018	53,387	173,030	86,282	28,368	9,804	556,983
1960[1]	94,084	85,408	5,610	45,061	157,270	125,088	31,724	6,291	550,536
1965	73,639	114,884	4,001	34,354	140,602	156,254	40,380	10,004	574,118
1970	89,850	312,420	2,222	38,318	139,647	185,831	28,704	7,295	804,287
1971	78,727	371,820	1,262	32,626	136,221	182,062	29,217	6,109	838,044
1972	77,932	435,348	1,137	44,291	142,320	191,111	24,622	8,886	925,647
1973	92,415	509,457	1,214	50,652	152,267	192,252	22,892	9,028	1,030,177
1974	91,052	475,204	1,176	50,236	143,726	172,896	20,423	8,503	963,216
1975	96,673	454,935	583	50,487	116,657	154,103	19,068	6,066	898,572
1976	117,458	492,974	423	58,212	153,596	178,139	18,561	5,785	1,025,148
1977	128,966	569,429	329	61,261	167,667	169,484	18,231	4,729	1,120,096
1978	157,495	533,193	206	57,690	169,403	164,536	16,583	4,127	1,103,233
1979	190,543	486,636	251	51,308	197,914	n/a	6,718	16,971	1,031,557
1980	213,131	390,105	631	56,409	154,568	n/a	9,124	4,053	918,026

n/a = not available

[1] Includes Alaska and Hawaii.

*Beginning with 1967, represented use by electric public-utility plants only.

Source: 1950- 1978: American Petroleum Institute, *Basic Petroleum Data Book*, Section VII, Table 13, 13a.
1979- 1980: U.S. Department of Energy, *Energy Data Reports*, Deliveries of Fuel Oil and Kerosene in 1980, annual issues, Table 13.

Table 32. Deliveries of Distillate Fuel Oil by Use
(Thousand Barrels)
(at 5-Year Intervals 1950-1970 and Annually 1966-1980)

Year	Heating Oils	Industrial Use	Oil Company Fuel	Electric Utility	Railroads	Vessel Bunkering	Military Use	Diesel Type			All Other	Total
								On Highway	Off Highway	Total		
1950	235,740	37,121	5,692	13,207	48,703	12,872	6,553	[1]	[1]	21,333	14,085	395,306
1955	356,589	43,606	8,597	5,884	84,668	16,675	10,945	23,446	20,769	44,215	9,948	581,127
1960[2]	438,010	34,271	8,347	4,742	86,490	18,730	10,793	36,467	38,095	74,562	7,380	683,325
1965	475,992	42.484	10,430	3,661	86,436	15,532	14,953	73,776	50,346	124,122	13,281	786,891
1970	521,135	43,668	11,518	24,770[3]	88,416	19,503	12,447	148,796	46,123	194,919	10,874	927,250
1971	522,475	50,731	14,088	35,329	86,251	20,959	17,427	166,981	46,925	213,906	10,154	971,320
1972	543,337	60,388	13,405	68,334	97,001	22,125	20,187	189,055	50,186	239,241	10,852	1,074,870
1973	536,856	67,306	14,902	77,950	102,828	26,786	19,598	221,420	55,541	276,961	11,876	1,135,063
1974	493,223	64,036	13,805	84,661	102,949	24,757	17,748	221,033	48,743	269,776	10,131	1,081,086
1975	488,388	63,993	13,633	63,420	93,191	26,138	18,004	217,906	48,977	266,883	10,096	1,043,746
1976	540,895	79,956	14,523	60,570	97,467	28,330	17,574	242,820	54,429	297,249	11,365	1,150,929
1977	537,530	104,244	19,954	76,881	99,306	33,512	18,137	264,412	62,823	327,235	14,394	1,230,993
1978	533,069	94,797	19,410	77,175	99,841	37,591	20,320	290,943	69,856	360,799	14,059	1,257,061
1979	1	97,325	20,065	46,579	106,652	38,826	17,810	327,402	63,102	390,504	33,784	1,208,456
1980	1	79,092	18,071	31,812	105,841	28,166	20,152	323,431	45,025	368,456	18,417	1,048,975

[1] Data not available.

[2] Included Alaska and Hawaii.

[3] Includes gas turbine plants in 1970 and subsequent years.

Source: 1950-1978: American Petroleum Institute, *Basic Petroleum Data Book*, Section VII, Table 11, 11a.
1979-1980: U.S. Department of Energy, *Energy Data Reports*, Deliveries of Fuel Oil and Kerosene in 1980, annual issues, Table 12.

Table 33. Average Retail Price of Transportation fuel (¢/gal.), 1975- 1981

Year	Aviation Fuels			Highway Fuels				Railroad Fuel		Marine
	Aviation Gasoline	Jet Fuel		Motor Gasoline			Truck No. 2 Diesel	Diesel	Coal ($/ton)	Bunker "C" Fuel
		Naphtha	Kerosene	Regular	Premium	Unleaded				
1975	41.1	30.7	29.8	56.7	60.9	57.1	n/a	30.00	16.90	24.66
1976	43.1	31.5	31,2	59.0	63.6	61.4	34.7	32.38	23.22	24.83
1977	47.7	35.0	35.8	62.2	67.4	65.6	39.3	36.38	33.14	27.74
1978	52.1	37.5	38.9	62.6	69.4	67.0	40.2	37.90^r	36.86^r	25.74
1979	69.5	52.3	55.1	85.7	92.2	90.3	62.4	57.58^r	32.99^r	n/a
1980	109.4^r	88.2^r	87.4^r	119.1	128.1	124.5	87.3^r	83.00	55.65	n/a
1981	131.5	105.7	103.1	131.1	143.9	137.8	106.0	n/a	n/a	n/a

n/a=not available
r = revised

Source: Railroad Fuel, 1975-1980: AAR, *Statistics of Railroads of Class I*, years 1970 to 1980, p. 16.
Other data: 1975-1977: DOE/EIA, *Monthly Energy Review*, Part 9, January 1980.
1978- 1981: *Ibid.*, April 1982, pp. 79, 82 and 83.

Table 34. Price Trend of Gasoline vs. Other Consumer Goods and Services (at 5-Year Intervals 1950-1970 and Annually 1971-1980)

Year	Retail Price of Regular Grade Gasoline (Cents Per Gallon)			Price Indexes of Regular and Premium Gasoline and Other Consumer Items (Index: 1967 = 100)					
	Service Station Price Excl. Taxes	State and Federal Taxes	Service Station Price Incl. Taxes	All Items	Food	Rent	Apparel and Upkeep	Regular and Premium Gasoline	Entertainment*
1950	20.08	6.68	26.76	72.1	74.5	70.4	79.0	71.8	74.4
1955	21.42	7.65	29.07	80.2	81.6	84.3	84.1	83.6	76.7
1960	20.99	10.14	31.13	88.7	88.0	91.7	89.6	92.5	87.3
1965	20.70	10.45	31.15	94.5	94.4	96.9	93.7	94.9	95.9
1970	24.55	11.14	35.69	116.3	114.9	110.1	116.1	105.6	113.4
1971	25.20	11.23	36.43	121.3	118.4	115.2	119.8	106.3	119.3
1972	24.46	11.67	36.13	125.3	123.5	119.2	122.3	107.6	122.8
1973	26.88	11.94	38.82	133.1	141.4	124.3	126.8	118.1	125.9
1974	40.41	12.00	52.41	147.7	161.7	130.6	136.2	159.9	139.8
1975	45.44	11.77	57.22	161.2	175.4	137.3	142.3	170.8	144.4
1976	47.44	12.03	59.47	170.5	180.8	144.7	147.6	177.9	151.2
1977	50.70	12.37	63.07	181.5	192.2	153.5	154.2	188.2	157.9
1978	53.09	12.62	65.71	195.4	211.4	164.0	159.6	196.3	176.6
1979	74.38	13.48	87.76	217.4	234.5	176.0	166.6	265.6	188.5
1980	107.35	14.37	121.72	246.8	254.6	191.6	178.4	369.1	205.3

*Includes reading materials, sporting goods, toys and hobbies, and entertainment services.

Source: Price of Gasoline and CPI: 1950-1980: American Petroleum Institute, *Basic Petroleum Data Book*, Section VI, Table 4/4a.
Price Indexes of Gasoline: 1950-1977: Bureau of Labor Statistics, *Handbook of Labor Statistics*, 1978, Table 122, p. 422.
1978-1980: *Ibid.*, personal communication.

Table 35. Average Fuel Efficiency of U.S. Passenger Cars (at 5-Year Intervals 1950-1965 and Annually 1966-1980)

Year	Average Passenger Car Fuel Efficiency[1] (Calendar Year Basis) (mpg)	New Car Fuel Efficiency Big Four[2] (Model Year Basis) (mpg)[1]
1950	14.95	16.0
1955	14.53	16.0
1960	14.28	15.5
1965	14.07	15.4
1966	14.00	15.0
1967	13.93	14.6
1968	13.79	14.2
1969	13.63	14.1
1970	13.57	14.1
1971	13.57	13.7
1972	13.49	13.6
1973	13.10	13.3
1974	13.43	12.8
1975	13.53	15.1
1976	13.72	16.5
1977	13.94	17.7
1978	14.06	18.7
1979	14.29	19.3
1980	15.15	21.8

[1] 55% city, 45% highway miles sales weighted average.
[2] Big Four = American Motors, Chrysler, Ford, and General Motors, (Domestic Fleet).

Source: U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics*, Table VM-1, annual issues.

New car fuel efficiency: U.S. DOT, NHTSA/NRM-20, personal communication.

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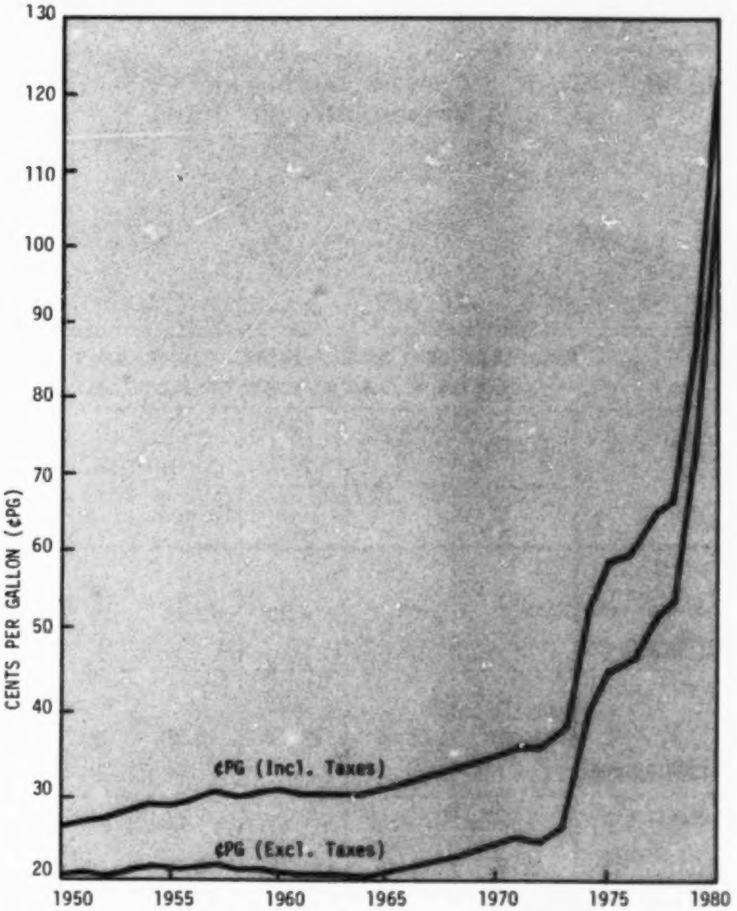
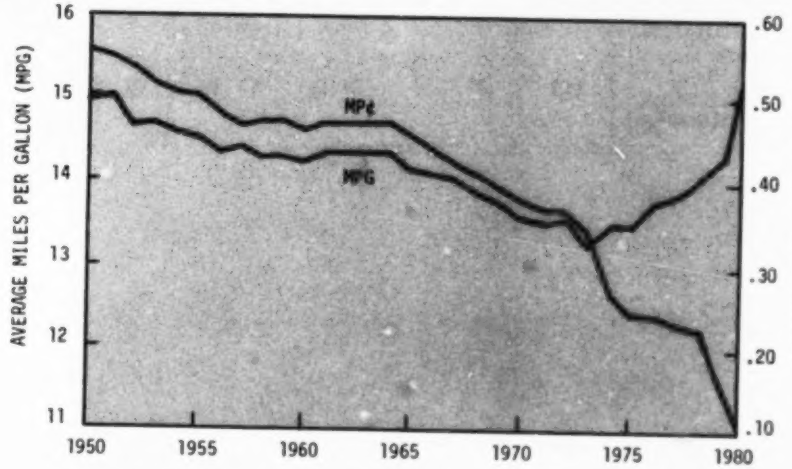


Source: 1950-1980: American Petroleum Institute, *Basic Petroleum Data Book*, Section VI, Table 4, 4a.

Figure 25. Price Trend of Regular Grade Gasoline Prices, 1950-1980



Source: MPG, FHWA, *Highway Statistics*, annual issues, Table VM-1.
MP¢, U.S. DOT, Transportation Systems Center computation.

Figure 26. Average Fuel Efficiency of U.S. Passenger Cars, 1950-1980 (Average Miles per Gallon and Average Miles per Cent Cost of Gasoline)

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Table 36. Estimated Cost of Owning and Operating 1981 Model Automobiles and Vans

SUBURBAN-BASED OPERATION
TOTAL COSTS: CENTS PER MILE*

SIZE	ORIGINAL VEHICLE COST DEPRECIATED	MAINTENANCE, ACCESSORIES, PARTS & TIRES	GAS & OIL (EXCLUDING TAXES)	PARKING & TOLLS	INSURANCE	STATE & FEDERAL TAXES	TOTAL COST
LARGE WITH STANDARD EQUIPMENT, WEIGHT MORE THAN 3,500 LBS. EMPTY	7.7	6.0	7.3	0.8	3.3	1.5	26.6
INTERMEDIATE WEIGHT LESS THAN 3,500 LBS. EMPTY	6.2	5.6	6.6	0.8	3.3	1.3	23.8
COMPACT WEIGHT LESS THAN 3,000 LBS. EMPTY	5.9	5.0	5.3	0.8	3.3	1.1	21.4
SUBCOMPACT WEIGHT LESS THAN 2,500 LBS. EMPTY	4.7	4.8	4.5	0.8	3.1	1.0	18.9
PASSENGER VAN WEIGHT LESS THAN 5,000 LBS. EMPTY	10.7	7.2	8.9	0.8	4.4	1.9	33.2

* Based on operations of 120,000 miles over 12 years.

Source: U.S. Department of Transportation, Federal Highway Administration, *Cost of Owning and Operating Automobiles and Vans, 1982.*

Table 37. Estimated Cost of Owning and Operating a *Large* Size 1981 Model Automobile, Including Fuel (Total costs in dollars, costs per mile in cents)[1]

Item	First Year (14,500 Miles)		Second Year (13,700 miles)		Totals & Averages for Ten Years (120,000 miles)	
	Total Cost	Cost Per Mile	Total Cost	Cost Per Mile	Total Cost	Cost Per Mile
Cost Excluding Taxes:						
Depreciation	2,457.00	16.94	1,421.00	10.37	9,232.00	7.69
Scheduled Maintenance	(98.85)	(.68)	(194.96)	(1.42)	(1,918.21)	(1.60)
Nonscheduled Repairs and Maintenance	(66.75)	(.46)	(117.55)	(.86)	(4,314.13)	(3.60)
Total Repairs and Maintenance	165.60	1.14	312.50	2.28	6,232.34	5.20
Replacement Tires	21.01	.14	19.80	.14	868.20	.72
Accessories	11.89	.08	11.37	.08	154.87	.13
Gasoline	1,039.69	7.17	982.39	7.17	8,604.80	7.17
Oil	11.25	.08	20.25	.15	207.00	.17
Insurance	461.00	3.18	445.00	3.25	3,991.00	3.33
Parking and Tolls	113.68	.78	107.10	.78	939.48	.78
Total	4,281.12	29.51	3,319.41	24.22	30,229.49	25.19
Taxes and Fees:						
State:						
Gasoline	76.76	.53	72.53	.53	635.30	.53
Registration	20.00	.14	20.00	.15	240.00	.20
Titling	461.60	3.18	-	-	461.60	.38
Operating Cost Sales Tax[2]	(.09)	-	(.72)	(.01)	(106.26)	(.09)
Nonoperating Cost Sales Tax	(.90)	(.01)	(2.29)	(.02)	(22.87)	(.02)
Total Sales Tax	.99	.01	3.01	.03	129.13	.11
Subtotal	559.35	3.86	95.54	.71	1,466.03	1.22
Federal:						
Gasoline	34.12	.24	32.24	.24	282.36	.24
Oil[2]	.08	-	.14	-	1.42	-
Tires	4.83	.03	4.57	.03	37.60	.03
Subtotal	39.03	.27	36.95	.27	321.38	.27
Total Taxes	598.38	4.13	132.49	.98	1,787.41	1.49
Operating Costs	3,511.24	24.21	2,094.61	15.29	15,996.55	13.33
Ownership Costs	1,368.26	9.43	1,357.29	9.91	16,020.35	13.35
Total of All Costs	4,879.50	33.64	3,451.90	25.20	32,016.90	26.68

[1] This estimate covers the total cost of a medium priced, large size four-door sedan, purchased for $9,232 and operated 120,000 miles over a 12-year period. Baltimore area prices, considered to be in the middle range, were used.

[2] Where costs per mile are less than .005 cent, a dash (-) appears.

Source: U.S. DOT, FHWA, *Cost of Owning and Operating Automobiles and Vans, 1982.*

Table 38. Estimated Cost of Owning and Operating an *Intermediate* Size 1981 Model Automobile, Including Fuel
(Total costs in dollars, costs per mile in cents)[1]

Item	First Year (14,500 Miles)		Second Year (13,700 miles)		Totals & Averages for Ten Years (120,000 miles)	
	Total Cost	Cost Per Mile	Total Cost	Cost Per Mile	Total Cost	Cost Per Mile
Cost Excluding Taxes:						
Depreciation	1,849.00	12.75	1,050.00	7.66	7,449.00	6.21
Scheduled Maintenance	(102.85)	(.71)	(193.20)	(1.41)	(1,890.82)	(1.58)
Nonscheduled Repairs and Maintenance	(66.75)	(.46)	(115.55)	(.84)	(4,141.89)	(3.45)
Total Repairs and Maintenance	169.60	1.17	308.75	2.25	6,032.71	5.03
Replacement Tires	14.02	.10	13.21	.10	579.40	.48
Accessories	12.11	.08	11.59	.08	156.53	.13
Gasoline	930.34	6.42	879.02	6.42	7,698.96	6.42
Oil	11.25	.08	20.25	.15	207.00	.17
Insurance	461.00	3.18	445.00	3.25	3,991.00	3.33
Parking and Tolls	113.68	.78	107.10	.78	939.48	.78
Total	3,561.00	24.56	2,834.92	20.69	27,054.08	22.55
Taxes and Fees:						
State:						
Gasoline	68.69	.47	64.90	.47	568.43	.47
Registration	20.00	.14	20.00	.15	240.00	.20
Titling	372.45	2.57	-	-	372.45	.31
Operating Cost Sales Tax[2]	(.09)	-	(.72)	(.01)	(100.84)	(.08)
Nonoperating Cost Sales Tax	(.92)	(.01)	(2.01)	(.01)	(20.55)	(.02)
Total Sales Tax	1.01	.01	2.73	.02	121.39	.10
Subtotal	462.15	3.19	87.63	.64	1,302.27	1.08
Federal:						
Gasoline	30.53	.21	28.84	.21	252.61	.21
Oil[2]	.08	-	.14	-	1.42	-
Tires	3.25	.02	3.06	.02	30.10	.03
Subtotal	33.86	.23	32.04	.23	284.13	.24
Total Taxes	496.01	3.42	119.67	.87	1,586.40	1.32
Operating Costs	1,238.68	8.54	1,232.79	9.00	14,520.13	12.10
Ownership Costs	2,818.33	19.44	1,721.80	12.56	14,120.35	11.77
Total of All Costs	4,057.01	27.98	2,954.59	21.56	28,640.48	23.87

[1] This estimate covers the total cost of a medium priced, intermediate size sedan, purchased for $7,449 and operated 120,000 miles over a 12-year period. Baltimore area prices, considered to be in the middle range, were used.

[2] Where costs per mile are less than .005 cent, a dash (-) appears.

Source: U.S. DOT, FHWA, *Cost of Owning and Operating Automobiles and Vans, 1982.*

Table 39. Estimated Cost of Owning and Operating a *Compact* Size 1981 Model Automobile, Including Fuel (Total costs in dollars, costs per mile in cents)[1]

Item	First Year (14,500 Miles)		Second Year (13,700 miles)		Totals & Averages for Ten Years (120,000 miles)	
	Total Cost	Cost Per Mile	Total Cost	Cost Per Mile	Total Cost	Cost Per Mile
Cost Excluding Taxes:						
Depreciation	1,206.00	8.32	984.00	7.18	7,111.00	5.93
Scheduled Maintenance	(66.10)	(.46)	(172.10)	(1.26)	(1,495.92)	(1.25)
Nonscheduled Repairs and Maintenance	(67.00)	(.46)	(117.80)	(.86)	(3,739.92)	(3.12)
Total Repairs and Maintenance	133.10	.92	289.90	2.12	5,235.84	4.37
Replacement Tires	13.85	.10	13.05	.10	572.50	.48
Accessories	14.44	.10	13.78	.10	175.79	.15
Gasoline	736.52	5.08	695.81	5.08	6,095.13	5.08
Oil	11.25	.08	20.25	.15	207.00	.17
Insurance	461.00	3.18	445.00	3.25	3,991.00	3.33
Parking and Tolls	113.68	.78	107.10	.78	939.48	.78
Total	2,689.84	18.56	2,568.89	18.76	24,327.74	20.29
Taxes and Fees:						
State:						
Gasoline	54.38	.38	51.37	.37	450.02	.38
Registration	20.00	.14	20.00	.15	240.00	.20
Titling	355.55	2.45	-	-	355.55	.30
Operating Cost Sales Tax[2]	(.10)	-	(.73)	(.01)	(81.61)	(.07)
Nonoperating Cost Sales Tax	(1.00)	(.01)	(1.27)	(.01)	(17.41)	(.01)
Total Sales Tax	1.10	.01	2.00	.02	99.02	.08
Subtotal	431.03	2.98	73.37	.54	1,144.59	.96
Federal:						
Gasoline	24.17	.17	22.83	.17	200.01	.17
Oil[2]	.08	-	.14	-	1.42	-
Tires	2.99	.02	2.83	.02	27.72	.02
Subtotal	27.24	.19	25.80	.19	229.15	.19
Total Taxes	458.27	3.17	99.17	.73	1,373.74	1.15
Operating Costs	1,024.02	7.07	1,031.91	7.54	12,314.81	10.27
Ownership Costs	2,124.09	14.66	1,636.15	11.95	13,386.67	11.17
Total of All Costs	3,148.11	21.73	2,668.06	19.49	25,701.48	21.44

[1] This estimate covers the total cost of a medium priced, compact size sedan, purchased for $7,111 and operated 120,000 miles over a 12-year period. Baltimore area prices, considered to be in the middle range, were used.

[2] Where costs per mile are less than .005 cent, a dash (-) appears.

Source: U.S. DOT, FHWA, *Cost of Owning and Operating Automobiles and Vans, 1982.*

Table 40. Estimated Cost of Owning and Operating a *Subcompact* Size 1981 Model Automobile, Including Fuel (Total costs in dollars, costs per mile in cents)[1]

Item	First Year (14,500 Miles)		Second Year (13,700 miles)		Totals & Averages for Ten Years (120,000 miles)	
	Total Cost	Cost Per Mile	Total Cost	Cost Per Mile	Total Cost	Cost Per Mile
Cost Excluding Taxes:						
Depreciation	956.00	6.59	776.00	5.66	5,625.00	4.69
Scheduled Maintenance	(96.85)	(.67)	(177.85)	(1.30)	(1,555.62)	(1.30)
Nonscheduled Repairs and Maintenance	(67.00)	(.46)	(113.80)	(.83)	(3,474.51)	(2.90)
Total Repairs and Maintenance	163.85	1.13	291.65	2.13	5,030.13	4.20
Replacement Tires	12.40	.09	11.68	.09	512.30	.43
Accessories	14.96	.10	14.27	.10	180.09	.15
Gasoline	631.32	4.35	596.46	4.35	5,224.38	4.35
Oil	9.00	.06	18.00	.13	189.00	.16
Insurance	415.00	2.86	401.00	2.93	3,664.00	3.05
Parking and Tolls	113.68	.78	107.10	.78	939.48	.78
Total	2,316.21	15.96	2,216.16	16.17	21,364.38	17.81
Taxes and Fees:						
State:						
Gasoline	46.61	.32	44.04	.32	385.72	.32
Registration	20.00	.14	20.00	.15	240.00	.20
Titling	281.25	1.94	-	-	281.25	.23
Operating Cost Sales Tax[2]	(.10)	-	(.53)	-	(70.31)	(.06)
Nonoperating Cost Sales Tax	(1.06)	(.01)	(1.67)	(.01)	(16.50)	(.01)
Total Sales Tax	1.16	.01	2.20	.01	86.81	.07
Subtotal	349.02	2.41	66.24	.48	993.78	.82
Federal:						
Gasoline	20.72	.14	19.57	.14	171.44	.14
Oil[2]	.06	-	.12	-	1.28	-
Tires	2.33	.02	2.20	.02	21.56	.02
Subtotal	23.11	.16	21.89	.16	194.28	.16
Total Taxes	372.13	2.57	88.13	.64	1,188.06	.98
Operating Costs	903.22	6.22	913.50	6.66	10,989.98	9.16
Ownership Costs	1,785.12	12.31	1,390.79	10.15	11,562.46	9.63
Total of All Costs	2,668.34	18.53	2,304.29	16.81	22,552.44	18.79

[1] This estimate covers the total cost of a medium priced, subcompact size sedan, purchased for $5,625 and operated 120,000 miles over a 12-year period. Baltimore area prices, considered to be in the middle range, were used.

[2] Where costs per mile are less than .005 cent, a dash (-) appears.

Source: U.S. DOT, FHWA, *Cost of Owning and Operating Automobiles and Vans, 1982.*

Table 41. Estimated Cost of Owning and Operating a 1981 Model *Passenger Van,* Including Fuel
(Total costs in dollars, costs per mile in cents)[1]

Item	First Year (14,500 Miles)		Second Year (13,700 miles)		Totals & Averages for Ten Years (120,000 miles)	
	Total Cost	Cost Per Mile	Total Cost	Cost Per Mile	Total Cost	Cost Per Mile
Cost Excluding Taxes:						
Depreciation	3,983.00	27.47	1,846.00	13.47	12,877.00	10.73
Scheduled Maintenance	(96.85)	(.67)	(177.85)	(1.30)	(1,555.62)	(1.30)
Nonscheduled Repairs and Maintenance	(67.50)	(.47)	(161.53)	(1.18)	(5,069.15)	(4.22)
Total Repairs and Maintenance	164.35	1.14	339.38	2.48	6,624.77	4.22
Replacement Tires	15.12	.10	14.24	.10	874.58	.73
Accessories	18.09	.12	17.28	.13	345.17	.29
Gasoline	1,262.52	8.71	1,192.91	8.71	10,448.54	8.71
Oil	13.50	.09	24.75	.18	240.75	.20
Insurance	585.00	4.03	567.00	4.14	5,327.00	4.44
Parking and Tolls	113.68	.78	107.10	.78	939.48	.78
Total	6,155.26	42.44	4,108.66	29.99	37,677.29	31.40
Taxes and Fees:						
State:						
Gasoline	93.21	.64	88.07	.64	771.42	.64
Registration	30.00	.21	30.00	.22	360.00	.30
Titling	643.85	4.44	-	-	643.85	.54
Operating Cost Sales Tax[2]	(.13)	-	(1.65)	(.01)	(110.84)	(.09)
Nonoperating Cost Sales Tax	(1.21)	(.01)	(1.82)	(.01)	(24.75)	(.02)
Total Sales Tax	1.34	.01	3.47	.02	135.59	.11
Subtotal	768.40	5.30	121.54	.88	1,910.86	1.59
Federal:						
Gasoline	41.43	.29	39.14	.29	342.86	.29
Oil[2]	.09	-	.17	-	1.65	-
Tires	6.53	.05	6.18	.05	60.84	.05
Subtotal	48.05	.34	45.49	.34	405.35	.34
Total Taxes	816.45	5.64	167.03	1.22	2,316.21	1.93
Operating Costs	1,613.71	11.13	1,635.74	11.94	18,860.11	15.72
Ownership Costs	5,358.00	36.95	2,639.95	19.27	21,133.39	17.61
Total of All Costs	6,971.71	48.08	4,275.69	31.21	39,993.50	33.33

[1] This estimate covers the total cost of a passenger van purchased for $12,877 and operated 120,000 miles over a 12-year period. Baltimore area prices, considered to be in the middle range, were used.

[2] Where costs per mile are less than .005 cent, a dash (-) appears.

Source: U.S. DOT, FHWA, *Cost of Owning and Operating Automobiles and Vans, 1982.*

Table 42. Estimated Gasoline Cost per Mile at Various Gasoline Prices (Cents per mile, excluding taxes)

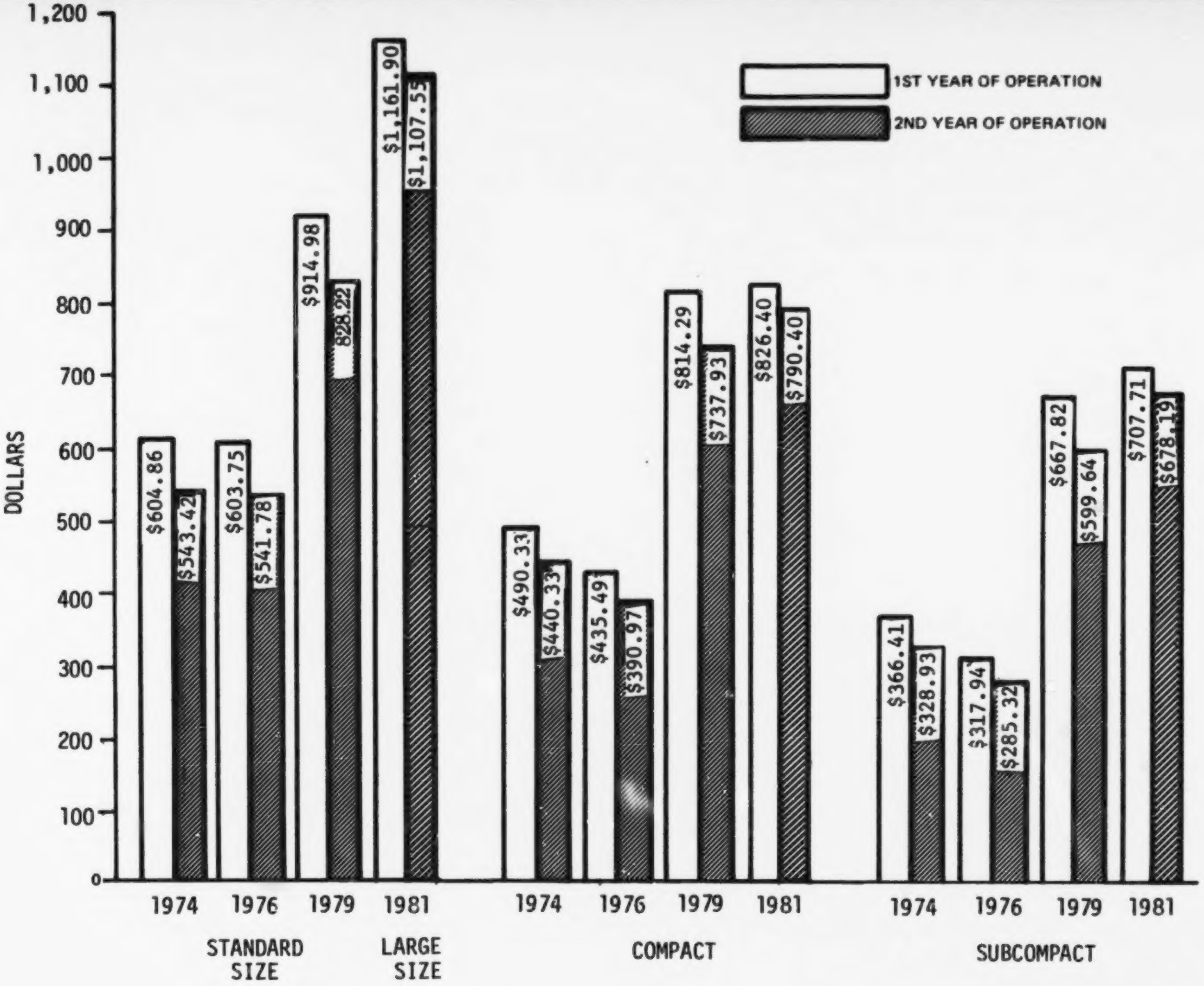
Vehicle	GASOLINE PRICE PER GALLON				
	$1.30	$1.35	$1.40	$1.45	$1.50
Large Car	6.88¢	7.17¢	7.46¢	7.76¢	8.05¢
Intermediate Car	6.15	6.42	6.68	6.94	7.20
Compact Car	4.87	5.08	5.29	5.50	5.70
Subcompact Car	4.18	4.35	4.53	4.71	5.21
Passenger Van	8.35	8.71	9.06	9.42	9.78

Source: U.S. DOT, FHWA, *Cost of Owning and Operating Automobiles and Vans, 1982*

Table 43. Estimated Cost per Passenger Mile When Travel to Work is on a Rideshare Basis (Cents per mile)*

Vehicle	NUMBER OF OCCUPANTS								
	1	2	3	4	5	6	8	10	12
Large Car	26.6	22.6	21.2	20.5	20.1	19.9	-	-	-
Intermediate Car	23.8	20.2	19.0	18.4	18.0	17.8	-	-	-
Compact Car	21.4	18.1	17.1	16.5	16.2	-	-	-	-
Subcompact Car	18.9	16.0	15.1	14.6	-	-	-	-	-
Passenger Van	33.2	28.2	26.5	25.6	25.1	24.8	24.4	24.1	23.9

* Based on the assumption that travel to work is 30.4% of total travel.
Source: U.S. DOT, FHWA, *Cost of Owning and Operating Automobiles and Vans, 1982*



Source: 1974, 1976: U.S. DOT, FHWA, *Cost of Operating an Automobile*, 1974, 1976.
1979, 1981: *Ibid., Cost of Owning and Operating Automobiles and Vans, 1979, 1982.*

Figure 27. Estimated Annual Automobile Gasoline and Oil Costs, Including Taxes, by Size and Year of Operation

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Part 2. Energy Intensiveness

Table 44. Energy Intensiveness of Certificated Air Carriers (All Services), 1971-1980

–	Aircraft Miles (millions)		Fuel Consumed[r] (million gal.)		Passenger-Miles (millions)		Passenger Loan Factor (%)		Btu/Passenger-Mile		
Year	Domestic Operations	International Operations	Domestic Operations	International Operations	Domestic Operations	International Operations	Domestic Operations	International Operations	Domestic Operations	International Operations	Total Operations
1971	1,934	379	7,799	2,353	110,100	39,640	41.0	46.3	9,563	8,014	9,153
1972	1,954	378	7,966	2,349	121,820	43,420	44.3	49.2	8,828	7,303	8,427
1973	2,018	379	8,354	2,345	130,720	43,900	31.6	37.5	8,682	7,211	8,271
1974	1,869	339	7,509	2,045	133,720	40,460	55.5	38.3	7,581	6,823	7,405
1975	1,885	310	7,558	1,949	136,000	37,320	54.6	52.3	7,502	7,050	7,405
1976	1,995	305	8,008	1,800	151,370	40,460	55.6	56.6	7,142	6,006	6,902
1977	2,078	319	8,417	1,851	163,220	42,860	55.8	56.4	6,962	5,830	6,726
1978	2,249	359	8,726	1,913	187,812	49,185	61.0	63.7	6,272	5,251	6,060
1979	2,471	388	9,376	1,993	212,701	57,018	62.8	63.8	5,951	4,719	5,690
1980	2,500	369	9,096	1,938	203,177	57,239	58.0	62.8	6,044	4,571	5,720

Note: Heat equivalent factor used in Btu conversion is 5,670,000 Btu/barrel.

Source: Aircraft Miles: CAB, *Air Carrier Traffic Statistics*, December 1980, p. 5 and 15, and similar tables in earlier editions.
Fuel Consumed:
1971 - 1972: CAB, *Handbook of Airline Statistics*, 1973 edition, page 65.
1973 - 1975: *Ibid., supplement*, 1975, 1977, p. 5, Table 2.
1976 - 1980: *Ibid., Fuel Cost and Consumption*, Twelve Months ended Dec. 31, 1980 and 1979, Tables 2,3,4,6 and 7, and similar tables in earlier editions.

Table 45. Energy Intensiveness of Certificated All-Cargo Carriers (All Services), 1970- 1980*

Year	Overall Revenue Ton-Miles (millions)			Fuel Consumed** (million gal.)			Btu/Overall Revenue Ton-Mile		
	Domestic Operations	International Operations	Total Operations	Domestic Operations	International Operations	Total Operations	Domestic Operations	International Operations	Total Operations
1970	302	1,123	1,425	60	229	289	26,821	27,529	27,739
1971	311	1,264	1,575	59	240	299	25,611	27,633	25,629
1972	379	1,333	1,712	68	249	317	24,222	25,218	24,997
1973	534	1,139	1,673	91	202	293	23,006	23,942	23,643
1974	533	1,112	1,645	85	180	265	21,529	21,852	21,748
1975	464	1,149	1,613	74	192	266	21,530	22,559	22,263
1976	463	1,183	1,646	75	186	261	21,868	21,226	21,406
1977	519	1,273	1,792	103	168	271	26,792	17,816	20,416
1978	870	1,316	2,186	164	171	335	25,448	17,542	20,688
1979	972	1,302	2,274	171	163	333r	23,750	16,901	19,770
1980	975	1,446	2,421	157	173	331	21,738	16,151	18,457

***Note: Btu/ton-mile data excludes passenger/cargo (belly freight) operations, which, if considered, would make overall air freight operations even more efficient.**

****Includes aviation gasoline and jet fuel.**

Note: Heat equivalent factor used in Btu conversion is 5,670,000 Btu/bbl.

Source: Overall Revenue Ton-Miles:

1969-1972: CAB, *Handbook of Airline Statistics*, 1973, p. 116 and p. 119.
1973-1980: CAB, *Air Carrier Traffic Statistics*, December 1980, p. 14 and p. 18, and similar tables in earlier editions.

Fuel Consumed:

1969-1972: CAB, *Handbook of Airline Statistics*, 1973, p. 65, Table 57.
1973-1975: CAB, *Handbook of Airline Statistics Supplement, 1975, 1977, p. 5, Table 2.*
1976-1980: CAB, *Fuel Cost and Consumption, 12 months ended Dec. 31, 1980 and 1979,* Table 4 and similar tables in earlier editions.

Table 46. Energy Intensiveness of General Aviation, 1970- 1980

Year	Intercity Passenger-Miles (10^6)	Fuel Consumption (million gal.)		Btu/Passenger-Mile^r
		AVGAS	Jet Fuel	
1970	9,100	551	208	10,363
1971	9,200	508	226	9,953
1972	10,000	584	245	10,327
1973	10,700	411	304	8,452
1974	11,200^r	443	357	9,057
1975	11,400^r	412	453	9,709
1976	12,100^r	432	495	9,814
1977	12,800^r	456	536	9,935
1978	14,100^r	518	763	11,723^r
1979	15,500^r	570	736	10,830^r
1980	15,000	520	766	11,060

r = revised

Note: The heat equivalent factors used in Btu conversion are:
AVGAS = 5,048,000 Btu/bbl.
Jet fuel (kerosene) = 5,670,000 Btu/bbl.

Source: Passenger-Miles Flown:
1970- 1980: TAA, *Transportation Facts and Trends,* Dec. 1981, p. 6.

Fuel Consumed:
1970-1972: FAA, *Statistical Handbook of Aviation,* 1972, Table 9.12 and same table in earlier editions.
1973-1977: *Ibid.*, Personal communication.
1978-1980: *Ibid.*, Office of Management Systems, *General Aviation Activity and Avionics* Survey, January 1981 and December 1981 editions, Table 2-18.

Table 47. Energy Intensiveness of Automobiles and Motorcycles, 1970- 1980

Year	Auto Pass.-Miles (millions)	Motorcycle Pass.-Miles (millions)	Fuel Consumed (million gal.)		Autos (Btu/pass.–miles)	Motorcycle (Btu/pass.–miles)
			Autos	Motorcycles		
1970	1,959,857	11,163	65,649	135	4,187	1,512
1971	2,066,024	16,558	69,213	301	4,188	2,272
1972	2,170,095	18,800	73,121	342	4,212	2,274
1973	2,237,094	21,553	77,619	392	4,337	2,274
1974	2,179,586	24,582	73,770	447	4,231	2,273
1975	2,261,866	24,586	76,010	447	4,201	2,273
1976	2,366,676	24,659	78,398	448	4,141	2,271
1977	2,461,028	24,823	80,226	451	4,075	2,271
1978	2,693,512	25,453	83,312	463	3,866	2,274
1979	2,623,191	24,211	79,793	440	3,802	2,272
1980	2,557,340	19,800	73,375	360	3,586	2,273

Note: Passenger-Mile data is based on vehicle-miles obtained from the FHWA and an average occupancy rate of 2.2 (2.3 as of 1978) for automobiles and 1.1 for motorcycles.

The heat equivalent factor used for Btu conversion is 125,000 Btu/gal.

Source: Passenger-Miles and Fuel Consumed:
FHWA, *Highway Statistics*, annual issues, Table VM-1.

Table 48. Energy Intensiveness of Trucks, 1970- 1980

Year	Vehicle-Miles (millions)			Fuel Consumed (million gal.)			Btu/Vehicle-Mile		
	Single-Unit Trucks	Combinations	All Trucks	Single-Unit Trucks	Combinations	All Trucks	Single-Unit Trucks	Combinations	All Trucks
1970	174,443	40,227	214,670	17,237	8,363	25,600	12,351	28,835	15,440
1971	184,396	42,641	227,037	18,221	8,865	27,086	12,352	28,836	15,448
1972	213,122	46,613	259,735	22,118	8,600	30,718	12,973	25,590	15,237
1973	219,128	48,019	267,147	22,755	8,860	31,615	12,980	25,592	15,247
1974	211,460	56,059	267,519	21,125	10,101	31,226	12,488	24,992	15,108
1975	218,894	55,560	274,454	21,868	9,764	31,632	12,488	24,375	14,894
1976	248,795	59,155	307,950	24,915	10,975	35,890	12,518	25,733	15,056
1977	266,000	63,465	329,465	26,255	11,709	37,964	12,338	25,590	14,890
1978	280,578	67,328	347,906	27,780	12,491	40,271	12,376	25,732	14,961
1979	294,000	66,500	360,500	28,544	12,315	40,859	12,136	25,686	14,635
1980	324,570	60,000	384,570	29,241	10,909	40,150	11,261	25,218	13,439

Note: The heat equivalent factors used for Btu conversions are:

Automotive gasoline = 125,000 Btu/gal (single-unit trucks)
Distillate fuel = 138,700 Btu/gal (combinations)

Source: FHWA, *Highway Statistics,* annual issues, Table VM-1.

Table 49. Energy Intensiveness of Local Transit and School Buses, 1970- 1980

Year	Vehicle-Miles (millions)						Fuel Consumed			Btu/Vehicle-Mile		
	Trolley Coach	Heavy Rail	Light Rail	Combined Rail & Trolley	Transit Bus	School Bus	Combined Rail & Trolley (kWh)(10^6)	Transit Bus (Diesel) (million gal.)	School Bus (Gasoline) (million gal.)	Combined Rail & Trolley†	Transit Bus	School Bus
1970	33.0	407.1	33.7	473.8	1,409	2,100	2,561	271	300	18,443	26,677	17,857
1971	30.8	407.4	32.7	470.9	1,376	2,212	2,556	257	316	18,520	25,905	17,857
1972	29.8	386.2	31.6	447.6	1,308	2,359	2,428	253	320	18,508	26,828	16,956
1973	25.7	407.3	31.2	464.2	1,370	2,412	2,331	283	327	17,134	28,651	16,946
1974	17.6	431.9	26.9	476.4	1,431	2,450	2,630	316	333	18,836	30,628	16,990
1975	15.3	423.1	23.8	463.7*	1,526	2,500	2,646	365	342	19,470	33,175	17,100
1976	15.3	407.0	21.1	444.9*	1,581	2,862	2,576	389	390	19,756	34,127	17,034
1977	14.8	361.3	20.4	398.0*	1,623	2,950	2,303	403	401	19,743	34,440	16,991
1978	13.3	363.5	19.5	397.8*	1,631	2,991	2,223	422	407	19,067	35,887	17,009
1979	11.7	380.5	19.1	411.9*	1,634	2,980	2,473	423	405	20,485	35,906	16,988
1980	13.0	384.7	19.5	417.8*	1,617	2,900	2,446	441	380	19,975	36,474	16,379

*Includes Cable Car and Inclined Plane.

†Does not include electric power generation and distribution losses, which, if included, would more than triple the Btu figures shown.

Note: The heat equivalent factors used for Btu conversion are:
1 kWh = 3412 Btu (Combined Rail and Trolley Coach)
Automotive gasoline = 125,000 Btu/gal. (School Bus)
Distillate oil = 138,700 Btu/gal. (Motor Bus)

Source: School Bus: FHWA, *Highway Statistics*, annual issues, Table VM-1.
Local Transit: APTA, *Transit Fact Book*, 1981 edition, Table 13 and 17.

Table 50. Energy Intensiveness of Class I Intercity Buses, 1974-1980

Year	Revenue Passenger-Miles (10^6)	Fuel Consumed (million gal.)	Btu/ Passenger-Mile
1974	19,500	140.7	1,001
1975	18,200	135.1	1,030
1976	17,820	134.8	1,049
1977	16,930	126.4	1,036
1978	16,200[r]	121.9	1,044[r]
1979	17,300	127.4	1,021[r]
1980[p]	17,300	132.2	1,060

Note: The heat equivalent factor used in Btu conversion is 138,700 Btu/gal.

p = preliminary
r = revised
Source: ABA, *Bus Facts*, 1981 edition. pp. 5, 18.

Table 51. Energy Intensiveness of Class I Railroad Freight, 1970- 1980

Year	Revenue Freight Ton-Miles (millions)	Fuel Consumed* (million gal.)	Btu/ Revenue Freight Ton-Mile
1970	764,809	3,181	577
1971	739,743	3,283	616
1972	776,746	3,528	630
1973	851,809	3,664	597
1974	850,961	3,643	594
1975	754,252	3,314	609
1976	794,059	3,461	605
1977	826,292	3,537	594
1978	858,105	3,507	567
1979	902,059	3,637	559
1980	918,958	3,567	538

*Diesel fuel only. Does not include electrically powered locomotives.

Note: The heat equivalent factor used for Btu conversion is 138,700 Btu/gal.

Source: Revenue Freight Ton-Miles:

1970-1979: AAR, *Statistics of Railroads of Class I*, 1969-1979, 64th edition, November 1980, p. 6, line 50.
1980: AAR, personal communication.

Fuel Consumed:

1970-1979: AAR, *Statistics of Railroads of Class I*, 1969- 1979, 64th edition, November 1980, p. 16, line 1.
1980: AAR, personal communication.

Table 52. Energy Intensiveness of Amtrak Service, 1972-1980

Year	Revenue Passenger-Miles (10^6)	Fuel Consumed (million gal.)				Total Fuel Consumed (10^9 Btu)*	Btu/Revenue Passenger-Mile*
		Locomotive		Rail Motor Car			
		Diesel	Electric*	Diesel	Electric*		
1972	3,039	n/a	n/a	n/a	n/a	n/a	n/a
1973	3,809	75.6	181.5	0.4	92.9	11,477	3,013
1974	4,259	64.8	182.3	0.7	94.8	10,030	2,355
1975	3,753	63.1	180.3	6.7	94.0	10,617	2,829
1976	4,268	67.1	183.3	9.8	87.6	11,590	2,716
1977	4,204	66.9	187.4	14.9	76.3	12,245	2,913
1978	4,154	69.6	197.4	17.7	64.7	13,003	3,130
1979	4,867	70.0	247.9	7.4	79.9	11,854	2,436
1980	4,503	63.5	253.8	5.6	43.9	10,600	2,354

n/a = not available

*Does not include electric power generation and distribution losses, which, if included, would increase figures shown by about 20%.

Note: The heat equivalent factors used in Btu conversion are:
Diesel = 138,700 Btu/gal.
Electric = 3,412 Btu/k Wh.

Source: Revenue Passenger-Miles:
1972-1979: AAR, *Statistics of Railroads of Class I*, 1969-1979, 64th Edition, November 1980, p. 18.
1980: AAR, *Operating and Traffic Statistics*, August 1981, p. 8.
Fuel Consumed:
1972-1980: AAR, personal communication.

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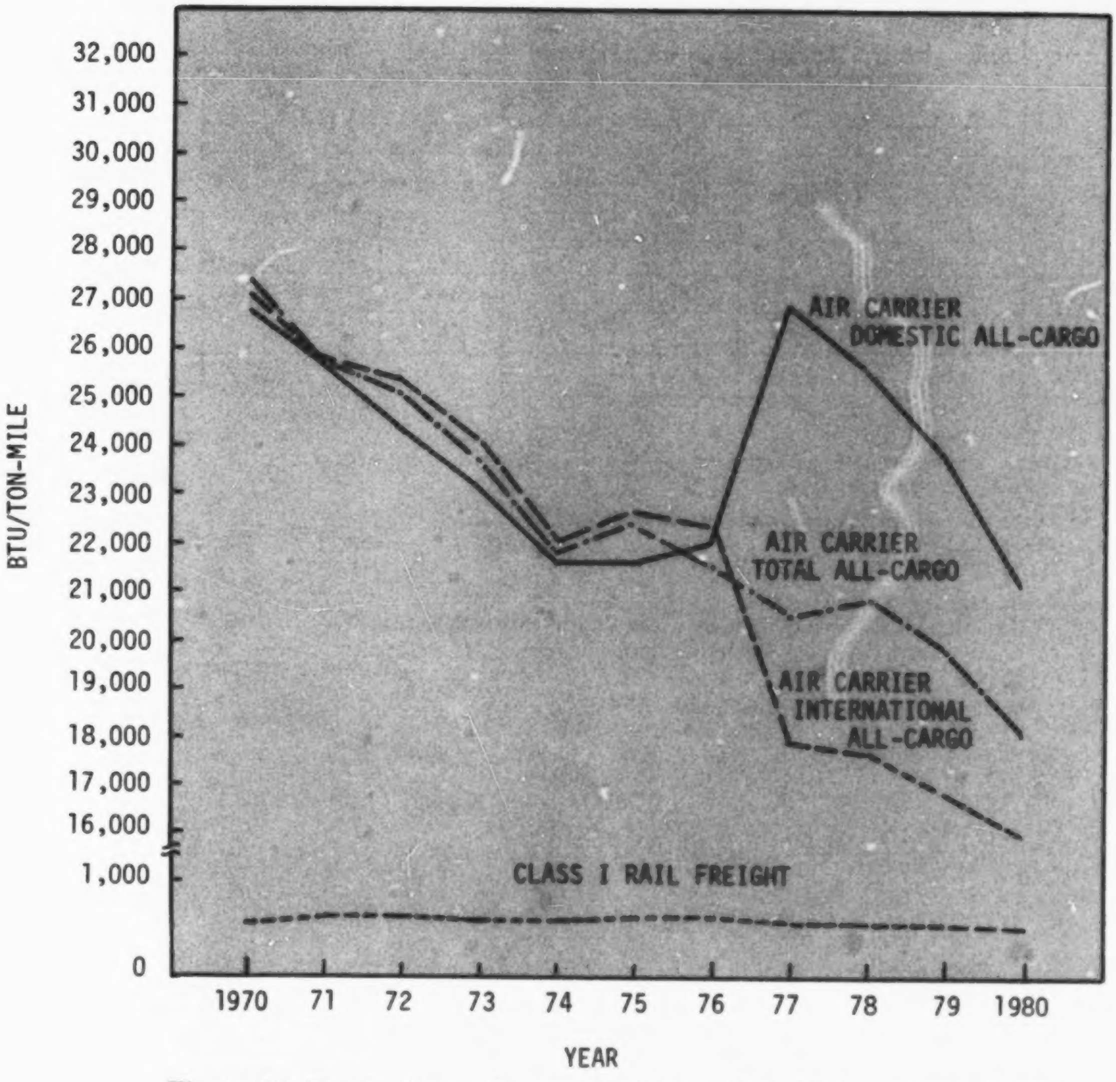

Figure 28. Energy Intensiveness by Air and Rail Modes, 1970- 1980 (Btu/Ton-Mile)

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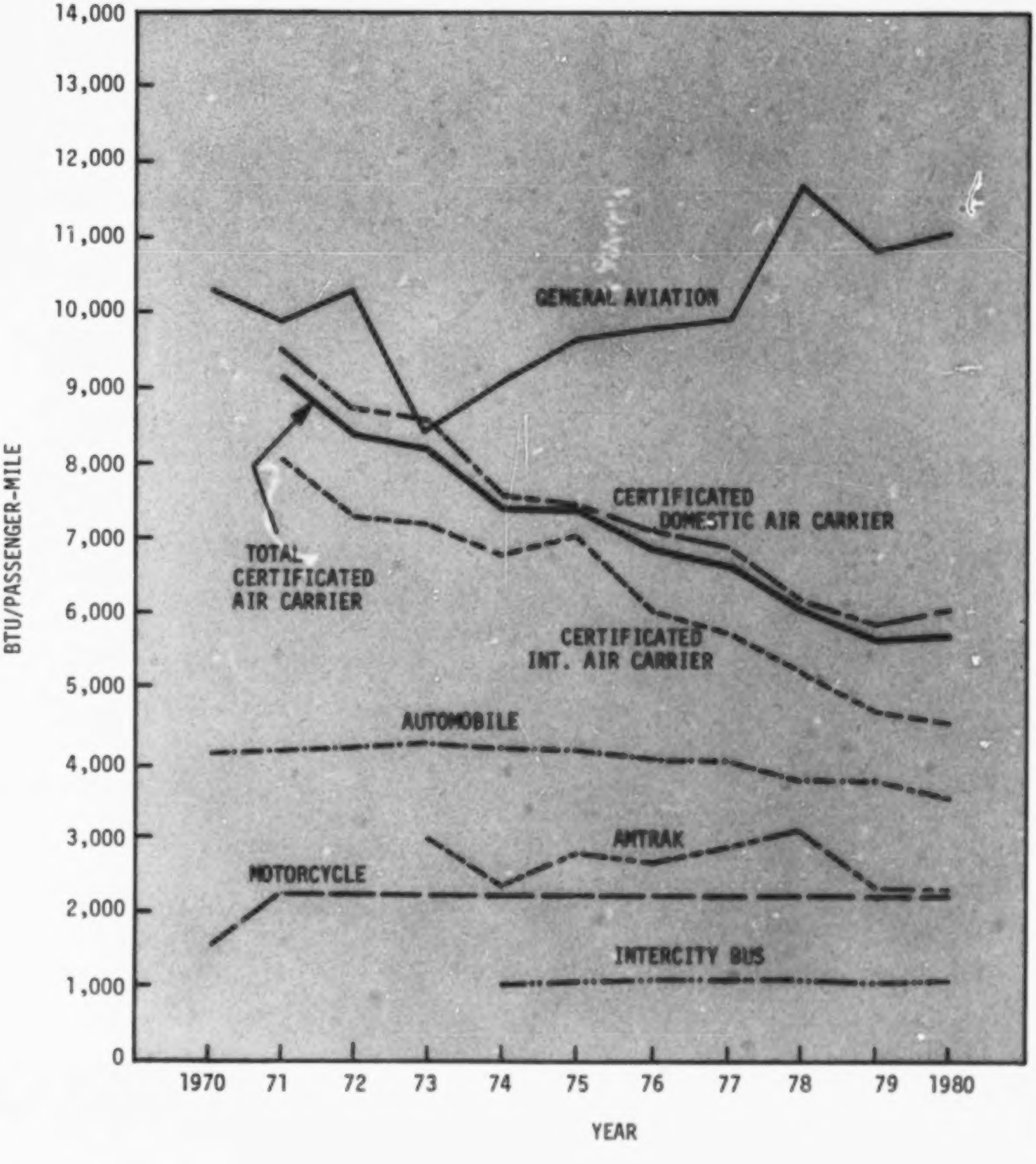

Figure 29 Energy Intensiveness by Passenger Mode, 1970- 1980 (Btu/Passenger-Mile)

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Part 3. Energy Transport

Table 53. Energy Transported by Foreign and Domestic Waterborne Commerce, by Type of Traffic and Commodity, Calendar Year 1980 (Net Traffic in Tons of 2,000 Pounds)

Commodity	Total	Foreign		Domestic					
		Imports	Exports	Total	Coastwise	Lakewise	Internal	Local	Intraterritory
Total all commodities[1]	1,998,887,402	517,521,121	403,882,879	1,077,483,402	329,608,613	115,124,231	534,979,027	94,183,696	3,587,835
Coal and lignite	256,353,353	894,555	91,339,901	164,118,897	3,705,329	21,900,180	131,647,799	6,865,580	-
Crude petroleum	480,156,868	305,965,362	774	174,190,732	126,581,876	-	41,577,264	6,031,592	-
Gasoline	87,343,761	6,101,929	273,967	80,967,875	44,196,300	1,122,432	28,669,688	6,767,709	211,746
Jet Fuel	11,606,830	-	-	11,606,830	6,662,450	183,318	4,217,732	371,265	172,065
Kerosene	3,594,061	52,125	3,145	3,538,791	1,866,330	3,499	1,158,917	478,997	29,048
Distillate fuel oil	74,559,623	2,319,497	142,166	72,097,960	34,325,045	905,726	22,546,531	15,736,513	584,145
Residual fuel oil	187,962,289	45,592,883	1,065,335	141,304,071	57,471,565	1,588,896	46,072,742	34,960,697	1,220,171
Lubricating oils and greases	15,786,147	7,552,136	2,821,319	5,412,692	3,043,692	2,363	2,193,530	173,026	81
Naptha, mineral, spirits, solvents, *nec*	8,274,712	-	-	8,274,712	2,808,187	180,389	3,972,103	626,849	687,184
Asphalt, tar and pitches	7,750,342	1,281,215	44,218	6,424,909	2,697,543	319,838	2,984,965	422,563	-
Coke, petroleum coke	15,930,590	799,769	11,056,560	4,074,261	672	144,045	3,516,903	412,614	-
Liquified gases, coal gases, natural gas, and natural gas liquids	5,614,506	3,387,367	1,006,910	1,220,229	231,906	165	929,455	58,463	240
Asphalt building materials	71,152	-	58,132	13,020	12,893	120	-	-	7
Petroleum and coal products, *nec*	4,593,156	191,335	149,539	4,252,282	1,266,100	320	471,472	2,430,179	84,211

nec = not elsewhere classified.

[1] Includes the energy commodities listed in the table plus all other commodities.

Source: Army Corps of Engineers, *Waterborne Commerce of the United States*, Part 5, 1980, Section 1, Table 2, Total and SIC codes (1121, 1311, 2911-2991).

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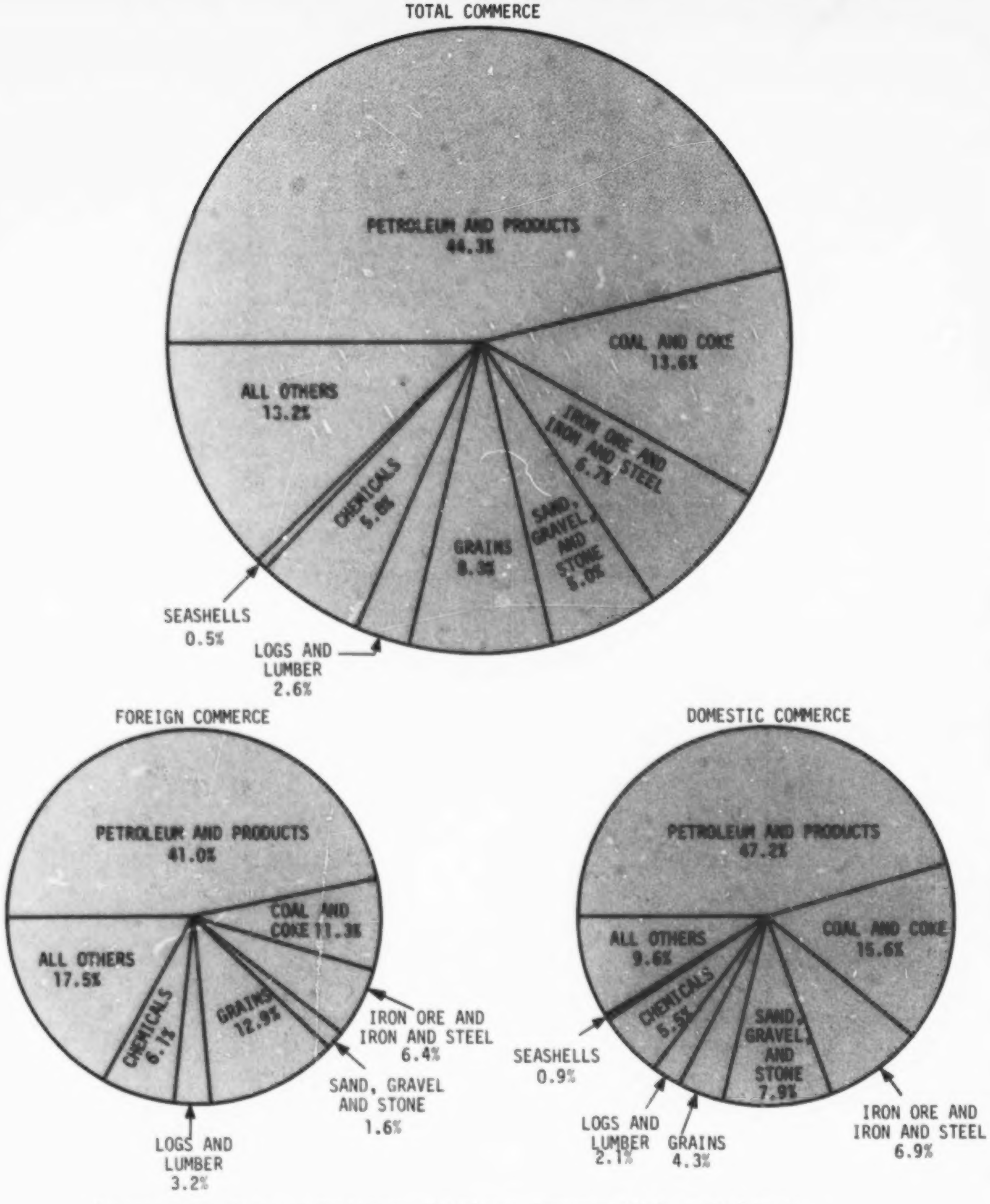

Source: Army Corps of Engineers, *Waterborne Commerce of the United States*, Part 5, 1980.

FIGURE 30. PRINCIPAL COMMODITIES CARRIED BY WATER, CALENDAR YEAR 1979

Figure 30. Principal Commodities Carried by Water, Calendar Year 1980

Table 54. Crude Petroleum and Petroleum Products Transported in the U.S. by Method of Transportation (at 5-Year Intervals 1950-1970 and Annually 1971- 1980)

Year	Pipelines		Water Carriers		Trucks[1]		Railroads		Total Tons Carried
	Tons Carried	Percent of Total	Tons Carried	Percent of Total	Tons Carried	Percent of Total	Tons Carried	Percent of Total	
1950	283,853,383	38.82	252,765,749	34.57	145,780,986	19.93	48,882,196	6.68	731,282,314
1955	412,533,395	42.94	284,007,134	29.56	222,604,360	23.17	41,663,502	4.33	960,808,391
1960	468,409,682	43.01	318,295,654	29.22	270,375,253	24.83	32,057,140	2.94	1,089,137,729
1965	587,795,480	44.43	323,671,414	24.47	385,480,600	29.14	25,856,600	1.96	1,322,804,094
1970	790,241,700	46.88	402,667,900	23.88	466,100,000	27.65	26,732,200	1.59	1,685,741,800
1971	806,671,000	46.90	416,792,000	24.24	470,700,000	27.37	25,649,900	1.49	1,719,812,900
1972	876,248,100	47.53	426,603,200	23.14	513,500,000	27.86	27,098,200	1.47	1,843,449,500
1973	912,209,900	47.44	421,205,800	21.90	559,767,000	29.11	29,736,200	1.55	1,922,918,900
1974	884,648,000	47.20	407,448,200	21.74	552,036,000	29.46	29,929,900	1.60	1,874,062,100
1975	879,449,300	48.02	403,964,900	22.06	520,605,000	28.42	27,496,600	1.50	1,831,515,800
1976	934,109,100	48.02	425,157,400	21.86	559,241,200	28.75	26,727,100	1.37	1,945,234,800
1977	986,083,100	47.95	446,549,500	21.72	595,042,900[r]	29.94	28,582,100	1.39	2,056,257,600[r]
1978	981,910,600	46.24	502,796,600	23.68	613,328,400[r]	28.88	25,610,000	1.20	2,123,645,600[r]
1979	978,063,300	46.66	491,515,266	23.45	601.079.500	28.68	25,387,400	1.21	2,096,063,300[r]
1980[p]	920,510,700	46.21	509,304,100	25.57	538,584,000	27.04	23,422,100	1.18	1,991,820,900

[1] Estimates
r = revised
p = preliminary

Source: Association of Oil Pipelines, *Shifts in Petroleum Transportation*, 1980, Table 1, and same table in previous issues.

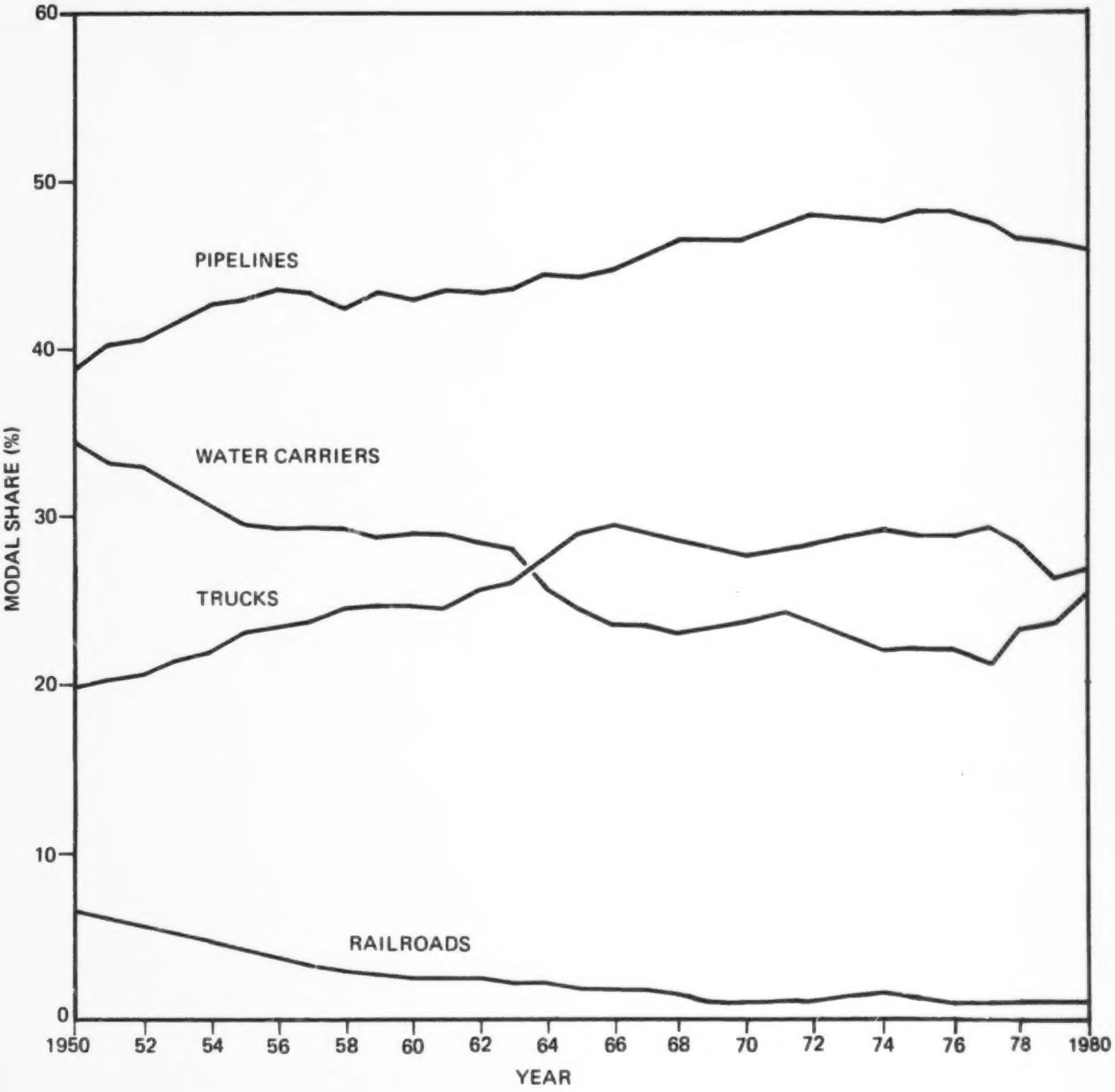

Figure 31. Crude Petroleum and Petroleum Products Transported in the U.S. by Modal Share, 1950- 1980

Table 55. Crude Oil Transported in the U.S. by Method of Transportation (at 5-Year Intervals1950- 1970 and Annually 1971- 1980)

Year	Pipelines		Water Carriers		Trucks[1]		Railroads		Total Tons Carried
	Tons Carried	Percent of Total	Tons Carried	Percent of Total	Tons Carried	Percent of Total	Tons Carried	Percent of Total	
1950	231,198,150	72.64	67,551,132	21.22	15,012,459	4.72	4,518,534	1.42	318,280,275
1955	310,042,950	77.73	63,081,850	15.81	22,923,695	5.75	2,828,541	0.71	398,877,036
1960	328,449,000	75.97	74,137,775	17.15	27,843,120	6.44	1,888,387	0.44	432,318,282
1965	367,049,480	74.92	82,082,862	16.76	39,696,600	8.10	1,060,600	0.22	489,889,542
1970	457,156,700	74.30	116,300,900	18.90	40,900,000	6.65	916,000	0.15	615,273,800
1971	459,860,200	74.62	114,720,700	18.62	40,800,000	6.62	876,100	0.14	616,257,000
1972	487,606,700	75.75	103,672,800	16.10	51,000,000	7.92	1,459,500	0.23	643,739,000
1973	492,382,300	76.89	90,518,500	14.13	55,590,000	8.68	1,900,900	0.30	640,391,700
1974	464,272,400	74.81	83,580,000	13.47	70,043,000	11.29	2,704,200	0.43	620,599,600
1975	454,690,000	74.34	77,887,000	12.74	76,207,000	12.46	2,832,700	0.46	611,616,700
1976	458,508,800	75.33	75,210,000	12.36	72,625,500	11.93	2,286,500	0.38	608,630,800
1977	460,132,800	72.26	84,816,600	13.32	89,692,500	14.09	2,132,900	0.33	636,774,800
1978	447,552,890	65.32	145,987,400	21.31	89,558,000	13.07	1,982,900	0.29	685,081,200
1979	437,135,400	63.32	148,853,300	21.56	102,973,800	14.91	1,436,200	0.21	690,398,700
1980^{p}	412,764,500	58.75	174,190,700	24.79	114,197,900	16.25	1,414,189	0.21	702,567,289

[1] Estimates

p = preliminary

Source: Association of Oil Pipelines, *Shifts in Petroleum Transportation*, 1980, Table 2, and same table in previous issues.

Table 56. Refined Petroleum Products Transported in the U.S. by Method of Transportation (at 5-Year Intervals 1950- 1970 and Annually 1971- 1980)

Year	Pipelines[1]		Water Carriers		Trucks[2]		Railroads		Total Tons Carried
	Tons Carried	Percent of Total	Tons Carried	Percent of Total	Tons Carried	Percent of Total	Tons Carried	Percent of Total	
1950	52,655,233	12.75	185,214,617	44.85	130,768,527	31.66	44,363,662	10.74	413,002,039
1955	102,490,445	18.24	220,925,284	39.32	199,680,665	35.53	38,834,961	6.91	561,931,355
1960	139,960,682	21.31	244,157,879	37.17	242,532,133	36.93	30,168,753	4.59	656,819,447
1965	220,746,000	26.50	241,588,552	29.01	345,784,000	41.51	24,796,000	2.98	832,914,552
1970	333,085,000	31.12	286,367,000	26.75	425,200,000	39.72	25,816,000	2.41	1,070,468,000
1971	346,810,800	31.43	302,071,300	27.37	429,900,000	38.96	24,773,800	2.24	1,103,555,900
1972	388,641,400	32.39	322.930,400	26.92	462,500,000	38.55	25,638,700	2.14	1,199,710,500
1973	419,827,600	32.74	330,687,300	25.78	504,177,000	39.31	27,835,300	2.17	1,282,527,200
1974	420,375,600	33.54	323,868,200	25.84	481,993,000	38.45	27,225,700	2.17	1,253,462,500
1975	424,759,300	34.82	326,077,900	26.73	444,398,000	36.43	24,633,900	2.02	1,219,899,100
1976	475,600,300	36.58	349,947,400	26.18	486,615,700	36.41	24,440,600	1.83	1,336,604,000
1977	525,950,300	36.05	361,732,900	25.59	505,350,400^{r}	36.60	26,449,200	1.86	1,419,482,800^{r}
1978	534,357,700	37.15	356,809,200	24.80	523,770,400^{r}	35.41	23,627,100	1.64	1,438,564,400^{r}
1979	540,950,700	38.48	342,661,900	24.38	498,105,700	35.44	23,951,200	1.70	1,405,664,600^{r}
1980^{p}	507,743,200	39.36	335,113,400	25.99	424,386,000	32.90	22,700,900	1.75	1,289,943,500

[1] Products in pipelines carry light products only — gasoline, heating and fuel oils, liquid petroleum gas, kerosene and jet fuel.
[2] Estimates
r = revised
p = preliminary

Source: Association of Oil Pipelines, *Shifts in Petroleum Transportation,* 1980, Table 3, and same table in previous issues.

Table 57. Petroleum Products Transported by Pipeline, 1979-1980
(Thousands of Barrels)

Item	December 1980	November 1980	December 1979	January-December (Incl.)	
				1980	1979
Turned into lines:					
Gasoline, total	177,071	170,299	186,738	2,127,660	2,206,906
Motor	176,704	169,969	186,544	2,123,500	2,202,646
Aviation	367	330	194	4,160	4,260
Jet fuel, total	30,549	30,695	32,113	373,672	389,823
Naphtha-type	3,581	3,056	3,269	41,337	42,596
Kerosene-type	26,968	27,639	28,844	332,335	347,227
Kerosene	3,032	2,636	2,766	27,532	31,431
Distillate fuel oil	74,348	67,552	79,370	706,522	866,196
Residual fuel oils	104	165	253	1,671	2,798
Natural gas liquids	53,643	51,502	64,914	626,493	681,442
Other products	204	228	578	4,810	1,025
Delivered from lines:					
Gasoline, total	176,534	166,108	183,838	2,125,759	2,210,783
Motor	176,196	165,797	183,599	2,121,768	2,206,687
Aviation	338	311	239	3,991	4,096
Jet fuel, total	30,551	30,421	31,647	369,019	382,270
Naphtha-type	3,617	3,053	3,237	41,266	42,530
Kerosene-type	26,934	27,368	28,410	327,753	339,740
Kerosene	2,712	2,594	2,738	26,821	29,954
Distillate fuel oil	76,076	66,753	80,322	771,606	865,885
Residual fuel oil	143	167	254	1,696	2,828
Natural gas liquids	54,089	52,087	64,453	624,887	684,803
Other products	188	201	416	4,668	862
Shortage (or overage):					
Gasoline, total	223	313	229	(3,913)	(4,773)
Motor	212	292	208	(4,048)	(4,924)
Aviation	11	21	21	135	151
Jet fuel, total	92	114	221	3,611	4,305
Naphtha-type	(42)	62	72	41	83
Kerosene-type	134	52	149	3,570	4,222
Kerosene	147	82	112	1,187	(1,146)
Distillate fuel oil	106	(335)	(119)	1,709	(1,692)
Residual fuel oil	0	(12)	1	(55)	(43)
Natural gas liquids	471	71	189	3,318	2,518
Other products	1	0	1	5	2
Stocks in lines and working tanks at end of month:					
Gasoline, total	58,301	57,987	52,277	58,301	52,277
Motor	58,234	57,938	52,244	58,234	52,244
Aviation	67	49	33	67	33
Jet fuel, total	11,427	11,521	10,275	11,427	10,275
Naphtha-type	1,225	1,219	1,087	1,225	1,087
Kerosene-type	10,202	10,302	9,188	10,202	9,188
Kerosene	1,503	1,330	1,979	1,503	1,979
Distillate fuel oil	31,291	33,125	34,498	31,291	34,498
Residual fuel oil	59	98	13	59	13
Natural gas liquids	33,731	34,648	35,552	33,731	35,552
Other products	19	4	161	19	161

Source: Department of Energy, *Energy Data Reports*, Petroleum Statement Monthly, December 1980. Table 12. p. 13.

Table 58. U.S. Petroleum Pipeline Mileage (As of December 31)
(At 3-Year Intervals 1950-1970 and Annually 1971- 1980)

	Crude-Oil Trunk Lines		Refined-Oil Trunk Lines		Total Trunk Lines		Crude-Oil Gathering Lines		Total Petroleum Pipelines	
Year	ICC Lines	All Lines[1]	ICC Lines	All Lines[1]	ICC Lines	All Lines[1]	ICC Lines	All Lines[1]	ICC Lines	All Lines[4]
1950	64,622	71,373	16,374	20,881	80,996	92,254	47,593	60,560	128,589	152,814
1953	63,408	75,228	20,462	27,236	83,870	102,464	50,030	68,040	133,900	170,504
1956	61,885	78,594	29,465	36.420	91,350	115,014	51,336	73,526	142,686	188,540
1959	61,860	70,317	37,732	44,483	99,592	114,800	49,567	75,182	149,159	189,982
1962	61,702	70,355	45,288	53,200	106,990	123,555	48,063	76,988	155,053	200,543
1965	63,981	n/a	50,791	n/a	114,772	n/a	46,640	n/a	161,412	213,765
1970	63,030	75,143	59,335	72,396	122,365	147,539	46,587	71,132	175,735[2]	218,671
1971	60,946	n/a	61,525	n/a	122,471	n/a	45,759	n/a	174,722[2]	219,899
1972	59,757	n/a	64,701	n/a	124,458	n/a	42,893	n/a	173,532[2]	221,127
1973	57,435	76,250	64,919[3]	78,038	122,354[3]	154,288	41,655	69,247	170,691[2]	223,535
1974	57,602	n/a	68,609[3]	n/a	126,211[3]	n/a	41,577	n/a	173,341[2]	224,712
1975	54,658	n/a	66,620[3]	n/a	121,278[3]	n/a	42,582[r]	n/a	172,680[2]	225,889
1976	58,544	77,972[4]	67,913[3]	81,296[4]	126,457[3]	159,268[4]	39,235	67,798[4]	174,072[2]	227,066
1977	59,739	n/a	60,099	n/a	119,838	n/a	34,703	n/a	154,541	229,380
1978	59,981[r]	n/a	65,114	n/a	125,095[r]	n/a	36,539	n/a	161,634[r]	231,647
1979	58,606[r]	n/a	74,261	n/a	132,867[r]	n/a	36,927	n/a	169,794	234,480
1980	59,560	n/a	74,510	n/a	134,070	n/a	35,279	n/a	169,349	n/a

n/a = not available
r = revised

[1] Triennial Data.

[2] Total mileage includes pipelines classified as "other than owned" by the ICC. In 1967 "other than owned" pipeline mileage was 6,255 miles.

[3] Includes 273 miles of coal slurry pipeline.

[4] Date of data is January 1, of each year.

ICC Lines are now Federal Energy Regulatory Commission.

Source: ICC Lines: 1950-1976: Interstate Commerce Commission, *Transport Statistics in the United States*, Part 6, Pipelines, December 31, 1976, Table 2 and equivalent tables in earlier editions.
1977- 1980: Penn Well Publishing Co., *Oil and Gas Journal*, Aug. 13, 1979, p. 90; Aug. 11, 1980, p. 86; Nov. 23, 1981, p. 101.
All Lines: 1950-1978: Department of Energy, *Energy Data Reports*, Crude Oil and Product Pipelines, Triennial, January 1, 1977, Table 1.
Total Petroleum (All Lines)
1950- 1979: Transportation Association of America, *Transportation Facts and Trends*, July 1978, p. 31, Dec. 1981, p. 13.

Table 59. U.S. Gas Utility Industry Miles of Pipeline and Main, by Type[1] (Thousands) (At 5-Year Intervals 1950-1965 and Annually 1966- 1980)

Year	Total	Field and Gathering	Transmission Pipeline[3]	Distribution Main
1950	387.5	32.8	113.1	241.6
1955	496.7	45.7	145.9	305.1
1960[2]	630.9	55.8	183.7	391.4
1965	767.5	61.7	211.3	494.5
1966	799.6	63.0	217.0	519.6
1967	828.3	63.7	225.4	539.2
1968	861.6	64.4	234.5	562.7
1969	891.6	64.9	248.1	578.6
1970	913.3	66.3	252.2	594.8
1971	931.4	66.2	254.8	610.4
1972	948.1	66.9	258.1	623.1
1973	962.9	65.9	263.1	633.8
1974	974.1	66.4	262.2	645.6
1975	979.3	68.5	262.6	648.2
1976	987.7	70.3	258.2	659.1
1977	998.9	71.5	260.5	666.9
1978	1,013.0	74.9	260.6	677.5
1979	1,029.8	77.8	263.5	688.5
1980	1,050.2	83.2	266.9	700.1

[1] Excludes service pipe. Data not adjusted to common diameter equivalent. Mileage shown as of the end of each year.

[2] These figures and those for subsequent years include Hawaii and Alaska.

[3] Includes 3,600 miles of underground storage pipe in 1971, 3,300 miles in 1972, 3,400 miles in 1973, 4,900 miles in 1974, 5,000 miles in 1975, 5,300 miles in 1976, 5,200 miles in 1977, 6,000 in 1978, 5,700 miles in 1979, and 6,200 in 1980, some of which was formerly included in Field and Gathering pipe.

Source: American Gas Association, 1980 *Gas Facts*, Table 44.

Table 60. World Tanker Fleet at End of 1980[1] (10,000 D.W. Tons and Over) by Flag and Ownership (In Million Long Tons Deadweight)

Flag	Ownership						Change 1980 over 1979	Share of Total
	Oil Company	Private	Government	Other	Total 1980	Total 1979		%
Liberia	36.0	61.8	-	2.5	100.3	102.5	-2.2	30.9
Norway	0.5	22.6	-	0.9	24.0	24.4	-0.4	7.4
U.K.	17.3	6.8	0.1	0.6	24.8	24.8	-	7.6
Japan	3.5	20.5	-	6.0	30.0	30.0	-	9.3
U.S.A.	8.0	6.9	1.3	-	16.2	15.7	+0.5	5.0
Panama	4.9	7.0	-	0.3	12.2	11.7	+0.5	3.8
France	10.6	4.1	0.1	0.2	15.0	15.4	-0.4	4.6
Greece	-	22.5	-	0.3	22.8	22.0	+0.8	7.0
Other Western Europe	15.7	21.4	-	-	37.1	39.4	-2.3	11.4
Other Western Hemisphere	8.1	0.4	0.3	0.1	8.9	8.2	+0.7	2.7
U.S.S.R., E. Europe and China	-	-	10.2	-	10.2	9.9	+0.3	3.1
Other Eastern Hemisphere	11.5	10.9	-	0.9	23.3	23.9	-0.6	7.2
TOTAL	116.1	184.9	12.0	11.8	324.8	327.9	-3.1	100.0
Fleet as at end 1979	114.9	194.9	11.6	6.5	327.9			
Net change 1980	+1.2%	-10.0%	+0.4%	+5.3%	-3.1%			

[1] Excluding 46.8 million D.W.T. Combined Carriers.

Source: British Petroleum Co., *BP Statistical Review of the World Oil Industry*, 1980, p. 14.

Table 61. World Tanker Fleet at End of 1980 by Age, Size and Propulsion (Million Long Tons Deadweight)

Size in '000 D.W.T.	Year of Construction								Propulsion		New Building In Progress and on Order at End 1980*
	Up to end 1950	1951-1955	1956-1960	1961-1965	1966-1970	1971-1975	1976-1980	Total	Motor	Other	
10- 25	1.3	1.3	3.6	1.8	2.4	2.2	1.5	14.1	11.6	2.5	1.0
25- 45	1.0	1.0	4.9	2.9	1.3	7.1	6.4	24.6	17.2	7.4	5.6
45- 65	-	0.3	1.0	9.1	1.7	0.6	3.4	16.1	9.3	6.8	3.6
65-125	-	-	0.2	7.8	18.5	13.9	12.1	52.5	42.8	9.7	5.3
125-205	-	-	-	-	6.4	13.1	13.0	33.0	24.0	9.0	0.7
205-285	-	-	-	-	20.3	98.3	20.5	139.1	13.2	125.9	1.0
285 and over	-	-	-	-	1.0	18.3	26.1	45.4	0.3	45.1	1.2
TOTAL	2.3	2.6	9.7	21.6	52.1	153.5	83.0	324.8	118.4	206.4	18.4
Motor	0.2	1.0	4.6	12.7	22.9	42.2	34.8	118.4	*Excludes 3.3 million D.W.T. combined carriers		
Other	2.1	1.6	5.1	8.9	29.2	111.3	48.2	206.4			

Source: British Petroleum Co., *BP Statistical Review of the World Oil Industry*, 1980, p. 14.

Table 62. World Tanker Fleet at End of 1980 by Employment (Estimated Proportions of World's Active Ocean-going Fleet on Main Voyages)

Voyages To	Voyages From					Total
	U.S.A.	Caribbean	Middle East	N. Africa	Others	
U.S.A.	3.0%	3.0%	8.5%	2.5%	5.0%	22.0%
Canada	-	-	1.5%	-	-	1.5%
Other Western Hemisphere	-	-	7.0%	0.5%	2.0%	9.5%
Western Europe, North and West Africa	-	1.5%	33.0%	1.5%	4.5%	40.5%
East and South Africa, South Asia	-	-	1.5%	-	1.0%	2.5%
Japan	-	-	12.0%	-	2.0%	14.0%
Other Eastern Hemisphere	-	1.0%	5.5%	-	1.5%	8.0%
U.S.S.R., E. Europe and China	-	-	2.0%	-	-	2.0%
TOTAL	3.0%	5.5%	71.0%	4.5%	16.0%	100.0%

Source: British Petroleum Company, *BP Statistical Review of the World Oil Industry*, 1980, p. 14.

Table 63. World Tanker Fleet by Flag, 1970- 1980 (Million D.W.T)

Flag	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
U.S.A.	9.3	9.5	9.5	9.5	10.4	10.6	11.6	13.1	14.4	15.7	16.2
U.K.	21.7	25.0	25.1	27.8	32.2	32.7	30.8	28.9	28.4	24.8	24.8
Norway	17.0	18.9	19.7	21.2	23.9	26.1	29.6	28.7	26.7	24.4	24.0
Other Western Europe	34.0	38.9	42.0	48.2	57.5	64.3	71.2	74.0	74.4	76.8	74.9
"Convenience"*	43.2	48.6	57.6	66.8	82.3	98.4	109.8	117.6	113.0	114.2	112.5
Japan	14.8	18.0	21.8	26.1	29.2	31.8	32.4	29.4	29.3	30.0	30.0
Rest of World	11.3	12.0	13.8	16.0	20.3	27.5	35.3	40.8	42.3	42.0	42.4
TOTAL	151.3	170.9	189.5	215.6	255.8	291.4	320.7	332.5	328.5	327.9	324.8

*Panama, Liberia, etc.

Source: British Petroleum Company, *BP Statistical Review of the World Oil Industry*, 1980, p. 26

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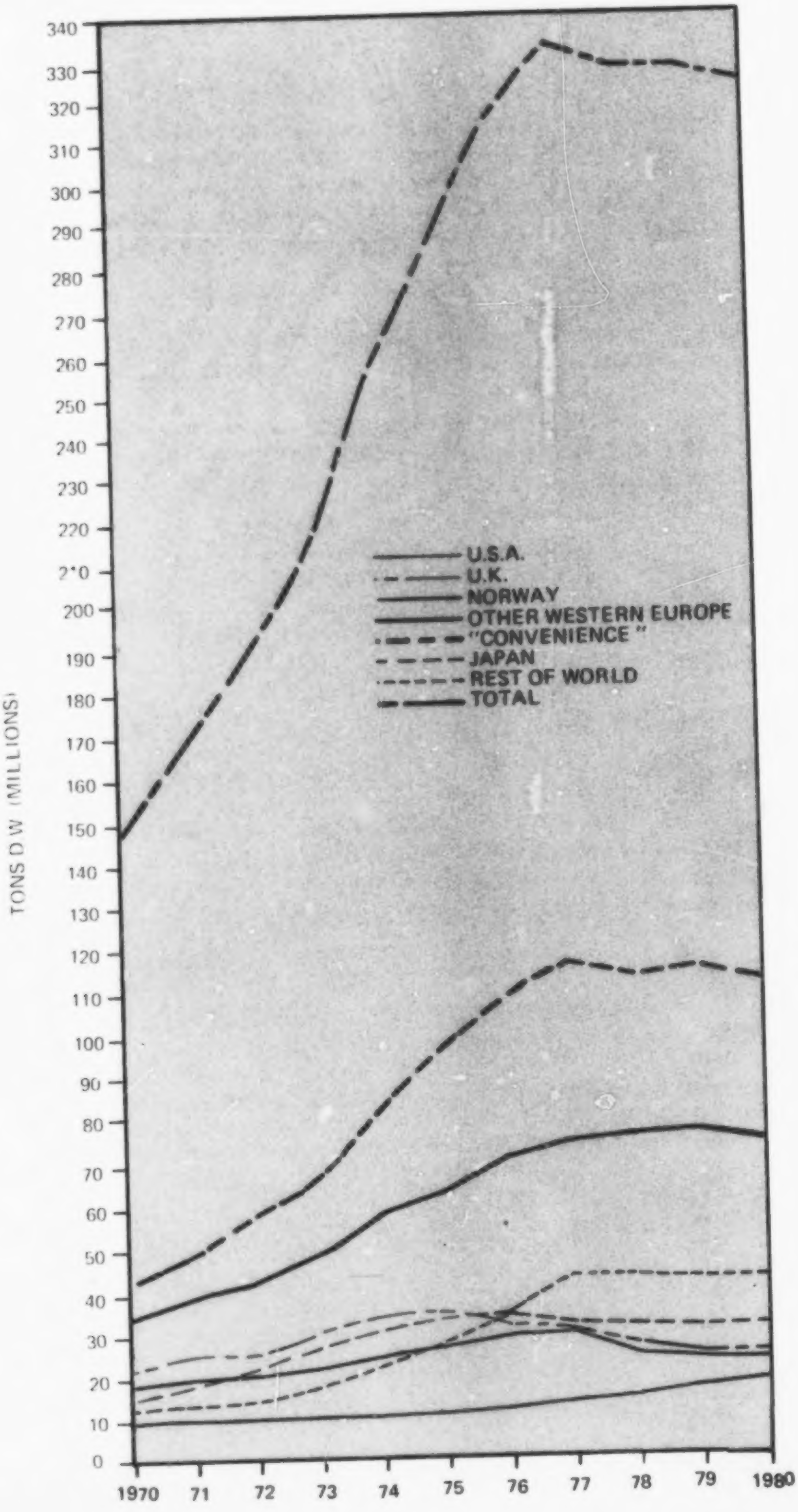

Figure 32. World Tanker Fleet by Flag, 1970- 1980

Table 64. U.S. Tank Ship Fleet (Actual and T2-SE-A1 Equivalent) (At 5-Year Intervals 1950-1965 and Annually 1966-1980)

(Ocean-going Vessels of 2,000 Gross Tons and Over)

Year[1]	Actual Fleet				T2-SE-A1 Equivalents	
	Number	Gross Tons	Deadweight Tons	Average Speed (Knots)	Number	Per Cent of World Total
1950[2]	559	5,322,698	8,460,700	14.5	505.1	34.4
1955	490	5,094,900	7,989,500	15.1	497.4	20.8
1960	478	5,664,000	8,894,600	15.7	575.0	14.1
1965	410	5,479,800	8,733,500	16.0	575.8	9.6
1966	337	5,343,700	8,549,900	16.1	566.3	8.5
1967	382	5,322,800	8,550,700	16.1	566.4	7.8
1968	380	5,337,300	8,655,700	16.1	574.6	7.0
1969	365	5,319,400	8,797,900	16.1	584.9	6.2
1970	350	5,305,800	8,911,002	16.2	593.4	5.5
1971	347	5,453,100	9,218,250	16.3	616.4	4.9
1972	328	5,411,300	9,253,330	16.4	621.0	4.3
1973	312	5,507,000	9,525,200	16.3	640.3	3.8
1974	306	5,798,068	10,236,221	16.4	689.9	3.5
1975	293	5,943,289	10,601,370	16.4	714.5	3.2
1976	290	6,357,974	11,565,138	16.4	779.3	3.2
1977	254	6,486,000	11,950,200	16.0	n/a	n/a
1978	271	7,449,900	13,589,200	16.0	n/a	n/a
1979	281	8,493,900	15,455,600	16.0	n/a	n/a
1980	269	7,621,000	14,720,000	n/a	n/a	n/a

[1] As of December 31, unless otherwise indicated.

[2] As of September 1.

n/a = not available.

Source: 1950-1976: Sun Oil Company, Division of Planning and Industry Affairs, *Analysis of World Tank Ship Fleet*, December 31, 1977, Table 1, and equivalent tables in earlier editions.
1977- 1980: Actual Fleet: DOT, Maritime Administration, Personal communication.

Table 65. Number and Mileage of Privately Owned U.S. Railroad Tank Cars
(As of December 31)
(At 5-Year Intervals 1950-1965 and Annually 1966-1979)

Year	Number			Mileage		
	Petroleum Tank Cars	Other Tank Cars	Total	Petroleum Tank Cars	Other Tank Cars	Total
1950	115,202	19,364	134,566	1,796,767,001	292,030,588	2,088,797,589
1955	121,405	24,372	145,777	1,818,573,349	343,450,999	2,162,024,348
1960	126,070	29,541	155,611	1,784,388,610	390,823,252	2,175,211,862
1965	123,738	31,488	155,226	1,324,976,232	310,989,383	1,635,965,615
1966[1]	80,592	76,844	157,436	960,989,876	765,728,108	1,726,717,984
1967	74,973	69,749	144,722	890,942,715	566,944,276	1,457,886,991
1968	75,581	70,310	145,891	894,093,477	572,310,905	1,466,404,382
1969	76,217	71,187	147,404	902,041,283	565,623,358	1,467,664,641
1970	75,434	68,151	143,585	871,494,171	577,724,890	1,449,219,061
1971	72,815	65,380	138,195	831,561,636	560,666,789	1,392,228,425
1972	75,387	72,619	148,006	905,119,533	662,865,785	1,567,985,318
1973	75,878	73,548	149,426	985,628,840	748,616,769	1,734,240,609
1974	113,642	39,968	153,610	1,027,780,341	834,784,466	1,862,564,807
1975	101,298	40,083	141,381	1,209,334,628	285,278,275	1,494,612,903
1976	114,672	42,728	157,400	1,486,374,353	313,365,488	1,799,739,841
1977	115,695	43,842	159,537	1,497,026,704	348,881,029	1,845,907,733
1978	120,040	39,676	160,316	1,522,906,554	366.585,626	1,889,492,180
1979	104,772	43,941	148,713	1,384,998,317	391,100,719	1,776,099,036

[1] One fleet previously included in the "petroleum" category has been reclassified as "other".

Source: Interstate Commerce Commission, *Transport Statistics in the United States*, Part 4, "Private Car Lines," December 31, 1979, p.2, and equivalent tables in earlier editions. As of 1980 this data is no longer available.

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Part 4. Energy Supply and Demand

Table 66. Imports and Exports, Crude Oil and Products, 1980

Country/Area	Million Tonnes (Metric Tons)[1]				Thousand Barrels Daily			
	Imports		Exports		Imports		Exports	
	Crude	Products	Crude	Products	Crude	Products	Crude	Products
U.S.A.	259.3	77.7	14.1	15.0	5,220	1,515	285	270
Canada	29.3	2.1	10.1	12.2	595	40	200	245
Latin America	131.2	15.5	93.2	103.5	2,630	310	1,840	2,045
Western Europe	514.9	74.0	15.3	7.9	10,390	1,435	300	160
Middle East	4.5	9.9	815.2	54.1	90	200	16,420	1,090
North Africa	3.5	2.0	131.0	9.2	70	40	2,635	185
West Africa	0.5	4.9	116.6	3.9	10	100	2,395	80
East and South Africa	21.3	1.8	-	0.5	430	35	-	10
South Asia	23.5	7.2	-	1.9	475	145	-	40
South East Asia	81.1	19.0	66.3	17.3	1,635	385	1,350	355
Japan	220.2	25.6	-	0.4	4,435	550	-	5
Australasia	9.9	8.1	-	0.9	200	165	-	20
U.S.S.R., E. Europe & China	8.1	9.6	55.7	43.9	165	195	1,120	885
Destination not known*	10.2	13.3	-	-	200	275	-	-
Total	1,317.5	270.7	1,317.5	270.7	26,545	5,390	26,545	5,390

*Includes increased quantities in transit, transit losses, minor movements not otherwise shown, military use, etc.

[1] One metric ton (tonne) equals 1.102 short tons.

Source: British Petroleum Company, *BP Statistical Review of the World Oil Industry*, 1980, p. 10.

Table 67. Petroleum Supply and Disposition
(At 5-Year Intervals 1950-1965 and Annually 1966-1980)
(Million Barrels per Day)

	Supply													Disposition			
	Production				Imports			Other									
Year	Crude Oil	Lease Condensate	Natural Gas Plant Liquids	Total Production	Crude Oil[1]	Refined Products	Total Imports	Other Refinery Input[2]	Unaccounted for Crude Oil	Processing Gains or Losses	Change in Stocks[3]	Total Supply		Crude Oil Losses	Export	Domestic Refined Product Demand	Total Disposition
1950	5.41	—[4]	0.50	5.91	0.49	0.36	0.85	*	n/a	*	0.06	6.81		0.05	0.30	6.46	6.81
1955	6.81	—[4]	0.77	7.58	0.78	0.47	1.25	*	n/a	0.03	*	8.86		0.04	0.37	8.46	8.86
1960	7.04	—[4]	0.93	7.96	1.02	0.80	1.81	*	n/a	0.15	0.08	10.01		0.01	0.20	9.80	10.01
1965	7.80	—[4]	1.21	9.01	1.24	1.23	2.47	*	n/a	0.22	0.01	11.71		0.01	0.19	11.51	11.71
1966	8.30	—[4]	1.28	9.58	1.22	1.35	2.57	*	n/a	0.25	-0.10	12.29		0.01	0.20	12.08	12.29
1967	8.81	—[4]	1.41	10.22	1.13	1.41	2.54	*	n/a	0.29	-0.17	12.88		0.01	0.31	12.56	12.88
1968	8.66	0.44	1.50	10.60	1.29	1.55	2.84	0.01	0.02	0.32	-0.15	13.64		0.01	0.23	13.39	13.64
1969	8.78	0.46	1.59	10.83	1.41	1.76	3.17	0.01	-0.01	0.34	0.05	14.38		0.01	0.23	14.14	14.38
1970	9.18	0.46	1.66	11.30	1.32	2.10	3.42	0.02	-0.02	0.36	-0.10	14.97		0.01	0.26	14.70	14.97
1971	9.03	0.43	1.69	11.16	1.68	2.25	3.93	0.02	0.04	0.38	-0.07	15.45		0.01	0.22	15.21	15.45
1972	9.00	0.44	1.74	11.18	2.22	2.53	4.74	0.03	0.03	0.39	0.23	16.60		0.01	0.22	16.37	16.60
1973	8.78	0.42	1.74	10.95	3.24	3.01	6.26	0.03	*	0.45	-0.14	17.55		0.01	0.23	17.31	17.55
1974	8.38	0.40	1.69	10.46	3.48	2.64	6.11	0.04	-0.02	0.48	-0.18	16.89		0.01	0.22	16.65	16.89
1975	8.01	0.37	1.63	10.01	4.10	1.95	6.06	0.04	0.02	0.46	-0.03	16.54		0.01	0.21	16.32	16.54
1976	7.78	0.36	1.60	9.74	5.29	2.03	7.31	0.04	0.08	0.48	0.06	17.70		0.01	0.22	17.46	17.70
1977	7.87	0.37	1.62	9.86	6.61	2.19	8.81	0.05	-0.01	0.52	-0.55	18.69		0.02	0.24	18.43	18.69
1978	8.35	0.35	1.57	10.27	6.36	2.01	8.36	0.05	-0.06	0.50	0.09	19.22		0.02	0.36	18.85	19.22
1979	8.18	0.37	1.58	10.14	6.52	1.94	8.46	0.04	-0.01	0.53	-0.15	19.00		0.02	0.47	18.51	19.00
1980[p]	8.21	0.39	1.57	10.16	5.20	1.59	6.79	0.05	0.09	0.59	-0.09	17.59		0.01	0.54	17.03	17.59

*Less than 5,000 Barrels per Day

p = preliminary

n/a = not available

Note: Sum of components may not equal total due to independent rounding.

[1] Includes imports for the Strategic Petroleum Reserve which began in 1977.

[2] Includes benzol, other hydrocarbons, and hydrogen.

[3] Negative numbers denote a net addition to stocks or a reduction in supply. Positive numbers denote a net withdrawal from stocks or an addition to supply.

[4] Included in Crude Oil.

Source: U.S. Department of Energy, *1980 Annual Report to Congress, Volume Two*, Table 21.

Table 68. Domestic Supply and Demand for Motor Gasoline, 1965- 1981
(Daily Averages in Thousands of Barrels)

Year	Supply			Stocks as of Dec. 31 (barrels x 10^3)	Demand			
	Production	Imports	New Supply		Change in Stocks	Total Demand	Exports	Domestic Demand
1965	4,537	27	4,564	174,717	-30	4,594	1	4,593
1966	4,798	43	4,841	186,393	+31	4,810	2	4,808
1967	4,956	42	4,998	200,055	+37	4,961	3	4,958
1968	5,215	59	5,274	204,496	+13	5,261	1	5,260
1969	5,484	62	5,546	211,199	+18	5,528	2	5,526
1970	5,714	67	5,781	209,255	- 5	5,786	1	5,785
1971	5,984	59	6,043	219,352	+28	6,015	1	6,014
1972	6,292	68	6,360	212,894	-18	6,378	1	6,377
1973	6,535	134	6,669	209,478	-10	6,679	4	6,675
1974	6,360	204	6,564	218,410[1]	+24	6,540	2	6,538
1975	6,520	184	6,704	234,978	+27	6,677	2	6,675
1976	6,859	131	6,990	231,432	+ 9	6,981	3	6,978
1977	7,033	217	7,250	257,623	+71	7,179	2	7,177
1978	7,169	190	7,359	237,979	-54	7,413	1	7,412
1979	6,852	181	7,033	237,200	- 2	7,035	1	7,034
1980	6,506	140	6,646	261,398	+66	6,580	1	6,579
1981	6,404	150	6,554	203,062	+29	6,586	2	6,588

[1] U.S. Bureau of Mines altered its stock reporting base as of January 1975. On the new basis, year-end 1974 stocks were 224,719 thousand barrels. This figure was used to compute the 1975 stock change.

Source: 1965-1975: American Petroleum Institute, *Basic Petroleum Data Book* Section VII, Table 5.

1976-1980: U.S. Department of Energy, *Energy Data Reports, Petroleum Statement, Monthly,* December 1977, 1978, 1979, 1980, Table 2, (converted to daily averages, using column 6).

1981: Ibid., December 1981, Table 2a, 3a.

Table 69. Domestic Supply and Demand for Naphtha Type Jet Fuel, 1965- 1981 (Daily Averages in Thousands of Barrels)

	Supply				Demand			
Year	Production	Imports	New Supply	Stocks as of Dec. 31 (barrels x 10^3)	Change in Stocks	Total Demand	Exports	Domestic Demand
1965	226	44	270	8,338	—	270	2	268
1966	245	35	280	7,235	-3	283	4	279
1967	300	15	315	9,037	+5	310	5	305
1968	332	19	351	8,904	—	351	5	346
1969	287	14	301	8,556	-1	302	5	297
1970	230	20	250	6,621	-5	255	6	249
1971	234	30	264	6,990	+1	263	3	260
1972	209	33	242	6,147	-2	244	2	242
1973	181	36	217	5,599	-2	219	2	217
1974	195	27	222	5,529	—	222	—	222
1975	180	28	208	5,222	-1	209	—	209
1976	187	15	202	6,495	+3	199	—	199
1977	186	21	207	6,285	-1	208	—	208
1978	182	19	201	5,960	-1	202	—	202
1979	176	22	198	5,599	-2	200	—	200
1980	188	31	219	6,308	+2	217	—	217
1981	193	7	200	6,925	-1	199	1	198

Source: 1965-1975: American Petroleum Institute, *Basic Petroleum Data Book*, Section VII, Table 14.

1976-1980: U.S. Department of Energy, *Energy Data Reports*, Petroleum Statement, Monthly. December 1980, 1979, 1978, 1977, Table 2 (converted to daily averages, using column 6).

1981: Ibid., December 1981, Table 2a, 3a.

Table 70. Domestic Supply and Demand for Kerosine Type Jet Fuel, 1965- 1981
(Daily Averages in Thousands of Barrels)

Year	Supply			Stocks as of Dec. 31 (barrels x 10^3)	Demand			
	Production	Imports	New Supply		Change in Stocks	Total Demand	Exports	Domestic Demand
1965	298	37	335	10,361	—	335	1	334
1966	345	52	397	13,139	+ 5	392	1	391
1967	448	74	522	13,174	+ 3	519	1	518
1968	529	86	615	15,373	+ 6	609	—	609
1969	594	111	705	19,517	+11	694	—	694
1970	597	125	722	20,989	+ 4	718	—	718
1971	601	150	751	20,747	- 1	752	1	751
1972	638	162	800	19,346	- 3	803	—	803
1973	679	176	855	22,945	+10	845	3	842
1974	641	135	776	23,906	+ 3	773	2	771
1975	691	105	796	25,158	+ 3	793	2	791
1976	731	61	792	25,590	+ 1	791	2	789
1977	787	53	840	28,263	+ 7	833	2	831
1978	791	67	858	27,707	- 2	859	1	858
1979	835	56	891	32,921	+14	877	1	876
1980	811	50	861	35,723	+ 8	853	1	852
1981	775	29	804	33,545	+ 7	810	1	809

r = revised

Source: 1965-1975: American Petroleum Institute, *Basic Petroleum Data Book*, Section VII, Table 15.

1976 - 1980: U.S. Department of Energy, *Energy Data Reports*, Petroleum Statement, Monthly, December 1980, 1979, 1978, 1977, Table 2, (converted to daily averages, using column 6).

1981: Ibid., December 1981, Table 2a, 3a.

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Table 71. Bituminous Coal and Lignite Supply and Disposition
(At 5-Year Intervals 1950-1965 and Annually 1966-1980)
(Million Short Tons)

Year	Supply							Disposition		
	Production			Imports	Change in Consumer Stocks[1] **	Losses and Unaccounted For[2] **	Total			
	Underground	Surface	Total					Exports	Consumption	Total
1950	392.8	123.5	516.3	0.3	-27.4	-9.6	479.7	25.5	454.2	479.7
1955	343.5	121.2	464.6	0.3	0.8	8.9	474.7	51.3	423.4	474.7
1960	284.9	130.6	415.5	0.3	3.0	-1.8	416.9	36.5	380.4	416.9
1965	332.7	179.4	512.1	0.2	-2.1	-1.0	509.3	50.2	459.1	509.3
1966	338.5	195.4	533.9	0.2	2.9	-1.3	535.6	49.3	486.3	535.6
1967	349.1	203.5	552.6	0.2	-18.7	-4.0	530.1	49.5	480.6	530.1
1968	344.1	201.1	545.2	0.2	7.6	2.8	550.3	50.6	499.7	550.3
1969	347.1	213.4	560.5	0.1	5.0	-1.8	563.8	56.2	507.6	563.8
1970	338.8	264.1	602.9	*	-11.3	-5.7	585.9	70.9	515.0	585.9
1971	275.9	276.3	552.2	0.1	2.1	-3.5	550.8	56.6	494.2	550.8
1972	304.1	291.3	595.4	*	-26.1	5.0	574.3	56.0	518.3	574.3
1973	299.4	292.4	591.7	0.1	12.3	5.6	609.8	52.9	556.9	609.8
1974	277.3	326.1	603.4	2.1	7.9	-0.5	612.9	59.9	553.0	612.9
1975	292.8	355.6	648.4	0.9	-31.7	5.5	623.2	65.7	557.5	623.2
1976	294.9	383.8	678.7	1.2	-6.4	-15.3	658.2	59.4	598.8	658.2
1977	266.0	425.4	691.3	1.6	-21.3	2.5	674.2	53.7	620.5	674.2
1978	242.2	423.0	655.1	3.0	11.0	-18.2	661.2	39.8	621.3	661.2
1979r	320.3	456.0	776.3	2.1	-34.9	-1.4	742.1	64.8	677.3	742.1
1980	336.9	486.7	823.6	1.2	-20.6	-15.2	789.0	89.0	699.1	789.0

r = revised

*Less than 0.05 million short tons.

** Note : Revised to exclude stocks on the Upper Great Lake docks.

[1] Changes of stocks at electric utility powerplants, coke plants, other industries, and retail dealers. Negative numbers denote a net addition to stocks or reduction in supply. Positive numbers denote a net withdrawal from stocks or an addition to supply.

[2] Difference between apparent demand (production plus imports less exports and less changes in consumers stocks) and reported consumption.

Source: U.S. Department of Energy, EIA, *Coal Data — A Reference*, July 1982.

Table 72. Anthracite Coal Supply and Disposition
(At 5-Year Intervals 1950-1965 and Annually 1966-1980)
(Million Short Tons)

Year	Supply				Disposition			
	Production	Imports	Change In Stocks, Losses and Unaccounted For	Total	Exports	Shipments to U.S. Armed Forces	Consumption	Total
1950	44.08	0.02	-0.30	43.79	3.89	0.00	39.90	43.79
1955	26.21	0.00	0.55	26.75	3.15	0.00	23.60	26.75
1960	18.82	*	0.22	19.04	1.44	0.00	17.60	19.04
1965	14.87	0.00	0.02	14.88	0.85	1.13	12.90	14.88
1966	12.94	0.00	-0.01	12.93	0.77	0.77	11.40	12.93
1967	12.26	0.00	-0.03	12.22	0.60	0.83	10.80	12.22
1968	11.46	0.00	0.04	11.50	0.52	0.82	10.16	11.50
1969	10.47	0.00	*	10.47	0.63	1.04	8.81	10.47
1970	9.73	0.00	-0.01	9.72	0.79	0.69	8.25	9.72
1971	8.73	0.00	0.00	8.73	0.67	0.72	7.34	8.73
1972	7.11	0.00	0.00	7.11	0.74	0.45	5.92	7.11
1973	6.83	0.00	*	6.83	0.72	0.44	5.67	6.83
1974	6.62	0.00	0.00	6.62	0.74	0.43	5.45	6.62
1975	6.20	0.00	*	6.20	0.64	0.46	5.11	6.20
1976	6.23	0.00	0.00	6.23	0.62	0.57	5.04	6.23
1977	5.86	0.00	-0.03	5.83	0.63	0.40	4.80	5.83
1978	5.04	0.00	0.00	5.04	0.87	0.28	3.90	5.04
1979r	4.84	0.00	0.00	4.84	1.23	0.37	3.24	4.84
1980	6.06	0.00	-0.25	5.81	1.80	0.34	3.67	5.81

r = revised

*Less than 5,000 short tons.

Note: Sum of components may not equal total due to independent rounding.

Source: U.S. Department of Energy, EIA, *Coal Data — A Reference*, July 1982.

Table 73. Natural Gas Supply and Disposition
(At 5-Year Intervals 1950-1965 and Annually 1966-1980)
(Trillion Cubic Feet)

Year	Supply				Disposition						Dry Natural[3] Gas Production
	Marketed Production	Imports	Withdrawal from Storage	Total Supply	Consumption	Extraction Loss[1]	Exports	Storage Injections	Adjustments[2]	Total Disposition	
1950	6.28	0.00	0.18	6.46	5.77	0.26	0.03	0.23	0.18	6.46	6.02
1955	9.41	0.01	0.44	9.85	8.69	0.38	0.03	0.51	0.25	9.85	9.03
1960	12.77	0.16	0.71	13.64	11.97	0.54	0.01	0.84	0.27	13.64	12.23
1965[4]	16.04	0.46	0.96	17.46	15.28	0.75	0.03	1.08	0.32	17.46	15.29
1966	17.21	0.48	1.14	18.83	16.45	0.74	0.02	1.21	0.40	18.83	16.47
1967	18.17	0.56	1.13	19.87	17.39	0.78	0.08	1.32	0.30	19.87	17.39
1968	19.32	0.65	1.33	21.30	18.63	0.83	0.09	1.43	0.33	21.30	18.49
1969	20.70	0.73	1.38	22.80	20.06	0.87	0.05	1.50	0.33	22.80	19.83
1970	21.92	0.82	1.46	24.20	21.14	0.91	0.07	1.86	0.23	24.20	21.01
1971	22.49	0.93	1.51	24.94	21.79	0.88	0.08	1.84	0.34	24.94	21.61
1972	22.53	1.02	1.76	25.31	22.10	0.91	0.08	1.89	0.33	25.31	21.62
1973	22.65	1.03	1.53	25.21	22.05	0.92	0.08	1.97	0.20	25.21	21.73
1974	21.60	0.96	1.70	24.26	21.22	0.89	0.08	1.78	0.29	24.26	20.71
1975	20.11	0.95	1.76	22.82	19.54	0.87	0.07	2.10	0.24	22.82	19.24
1976	19.95	0.96	1.92	22.84	19.95	0.85	0.06	1.76	0.22	22.84	19.10
1977	20.03	1.01	1.75	22.79	19.52	0.86	0.06	2.31	0.04	22.79	19.16
1978	19.97	0.97	2.16	23.10	19.63	0.85	0.05	2.28	0.29	23.10	19.12
1979	20.47	1.25	2.05	23.77	20.24	0.81	0.06	2.30	0.37	23.77	19.66
1980	20.09[5]	0.99e	2.08	23.17e	20.02e	0.80e	0.06e	2.03	0.27e	23.17e	19.30[5]

e = estimated

[1] Quantity converted to natural gas plant liquids and transferred to petroleum supply and disposition.

[2] Includes transmission losses, changes in above ground storage, and unaccounted for gas.

[3] Marketed production less losses due to the extraction of liquids.

[4] Beginning with 1965 data, all volumes are shown on a pressure base of 14.73 psia at 60°F.

[5] Estimate based on reported data through November.

Note: Sum of components may not equal total due to independent rounding.

Source: U.S. Department of Energy, *1980 Annual Report to Congress*, Volume Two, Table 45.

Table 74. Domestic Demand for Gasoline
(At 5-Year Intervals 1950-1970 and Annually 1971-1980)
(Thousands of Barrels per Day)

Year	Total Demand	% Change	Motor[1]	% Change	Aviation	% Change
1950	2,593	—	2,561	—	32	—
1955	3,386	+30.6	3,321	+29.7	65	+103.1
1960[2]	3,996	+18.0	3,910	+17.7	86	+32.3
1965	4,682	+17.2	4,649	+18.9	33	-61.6
1970	5,896	+4.3	5,870	+4.4	26	-16.1
1971	6,180	+4.8	6,157	+4.9	23	-11.5
1972	6,604	+6.9	6,581	+6.9	23	0.0
1973	6,881	+4.2	6,855	+4.2	26	+13.0
1974	6,590	-4.2	6,564	-4.2	26	0.0
1975	6,779	+2.9	6,752	+2.9	27	+3.8
1976	7,158	+5.6	7,130	+5.6	28	+3.7
1977	7,355	+2.8	7,326	+2.7	29	+3.6
1978	7,622	+3.6	7,592	+3.6	30	+3.4
1979	7,366	-3.4	7,333	-3.4	33	+10.0
1980	6,894	-6.4	6,867	-6.4	27	-18.2

[1] Includes highway and nonhighway uses.

[2] These figures and those for subsequent years are on a 50 state basis plus Washington, D. C.

Source: 1950-1980: U.S. Department of Transportation, FHWA, *Highway Statistics*,
Annual issues. Total demand (Table MF-21) minus Table MF-25.
Aviation (Table MF-24). (All data converted to barrels and daily averages.)

Table 75. Domestic Demand for Naphtha and Kerosene-Type Jet Fuel
(Thousand Barrels)
(1965-1981)

Year	Naphtha Type Total	Barrels Per Day	Kerosene Type Total	Barrels Per Day	Naphtha and Kerosine	Barrels Per Day	Annual Percentage Change
1965	97,813	268	121,819	334	219,632	602	-0.2
1966	101,635	278	142,751	391	244,386	670	+11.3
1967	111,546	306	189,224	518	300,770	824	+23.0
1968	126,601	346	222,777	609	349,378	955	+16.2
1969	108,518	297	253,213	694	361,731	991	+3.5
1970	90,927	249	262,051	718	352,978	967	-2.4
1971	94,732	260	273,991	751	368,723	1,010	+4.5
1972	88,495	242	293,995	803	382,490	1,045	+3.7
1973	79,220	217	307,407	842	386,627	1,059	+1.1
1974	81,171	222	281,429	771	362,600	993	-6.2
1975	76,543	210	288,747	791	365,290	1,001	+0.7
1976	72,713	199	288,645	789	361,358	987	-1.1
1977	75,888	208	303,369	831	379,257	1,039	+5.0
1978	72,546	202	313,108	858	385,654	1,060	+1.7
1979	72,925	200	319,774	876	392,699	1,076	+1.8
1980	79,283	217	311,813	852	391,096	1,069	-0.4
1981	72,495	199	295,626	809	368,121	1,008	-5.9

r = revised

Source: 1965-1975: U.S. Department of the Interior, Bureau of Mines, *Mineral Industry Surveys*, Petroleum Statement, Annual, Table 1.
1976-1981: U.S. Department of Energy, *Energy Data Reports*, Petroleum Statment, Monthly, December 1981, 1980, 1979, 1978, 1977, Table 2.

APPENDIX A
Source Information

Figure References (Figure 3-Figure 9)

Figure 3. Expenditures and Revenues, 1980

(1) Total Transportation: Sum of Domestic and International.

(2) Domestic: Sum of Highway, Local Transit, Rail, Air, Water, and Pipeline.

(3) International: Sum of Air Carrier and Water.

(4) Highway: Sum of Auto, Truck, and Bus.

(5) Auto: Sum of Personal Passenger Car, Taxi and Motorcycle.

(6) Personal Passenger Car: Dept. of Commerce, Bureau of Economic Analysis, *Survey of Current Business*, July 1981, Table 2.4, line 64.

(7) Taxi: *Ibid*, line 75.

(8) Motorcycle: Motorcycle Industry Council, Inc., *1981 Motorcycle Statistical Annual*, p. 11.

(9) Truck: Sum of Local Truck and Intercity Truck.

(10) Local Truck: TAA, *Transportation Facts and Trends*, Seventeenth Edition, Dec. 1981, p.2.

(11) Intercity Truck: Sum of ICC-Regulated Truck and Nonregulated Truck.

(12) ICC-Regulated Truck: TAA, *Transportation Facts and Trends*, Seventeenth Edition, Dec. 1981, p.2. Revenues of the Class I, II, III motor carriers of property. Revenues include local cartage under the assumption that the majority of such revenues constitute pickup and delivery of intercity freight.

(13) Nonregulated Truck: *Ibid.*

(14) Bus: Sum of Intercity Bus and School Bus.

(15) Intercity Bus: American Bus Association, *Bus Facts, 1981*, Operating revenues of Class I, II, III carriers reporting to the ICC, plus intrastate carriers. Includes passenger, express, mail, station, and other revenues. p.3.

(16) Passenger, Intercity Bus: *Ibid.*, p.5. Total passenger revenues of Class I carriers plus 25 percent of this amount as estimated passenger revenues for Class II and Class III and intrastate carriers.

(17) Cargo, Intercity Bus: *Ibid.*, p. 10. Total package express and mail revenues for Class I carriers plus 25 percent of this amount as estimated cargo revenues for Class II and III and intrastate carriers.

(18) School Bus: TAA, *Transportation Facts and Trends*, Seventeenth Edition, Dec. 1981, p.5.

(19) Local Transit: APTA, *Transit Fact Book*, 1981 edition, Table 7. Total operating revenues of Light Rail, Heavy Rail, Trolley Coach, and Motorbus.

Figure 3. Expenditures and Revenues, 1980 (Cont.)

(20) Motorbus: *Ibid.* Operating revenues.

(21) Trolley Coach: *Ibid.* Operating revenues.

(22) Light Rail: *Ibid.* Operating revenues.

(23) Heavy Rail: *Ibid.* Operating revenues.

(24) Rail: Sum of Passenger and Cargo.

(25) Rail, Passenger: Sum of Commuter and Intercity.

(26) Rail, Commuter: AAR, *Yearbook of Railroad Facts*, 1981 edition, p.14. Includes Amtrak (NRPC).

(27) Rail, Intercity: *Ibid.*, p.14. Sum of passenger revenues from coaches, parlor and sleeping cars, which includes Amtrak (NRPC).

(28) Rail, Cargo: *Ibid.*, p.13. Class I freight revenue. Excludes Rock Island Railroad.

(29) Air: Sum of General Aviation and Air Carrier.

(30) General Aviation: TAA, *Transportation Facts and Trends*, Seventeenth Edition, Dec. 1981, p.5. Figure represents the sum of operating costs and total retail value of new general aviation aircraft.

(31) Air Carrier: Sum of Certified and Supplemental.

(32) Certificated: CAB, *Air Carrier Financial Statistics*, Dec. 1980, p. 2, column 7, line 19. Total operating revenues, domestic operations.

(33) Passenger, Certificated: *Ibid.;* sum of lines 3 and 12. Total passenger revenues in scheduled and charter service.

(34) Freight, Certificated: *Ibid.;* sum of lines 4, 5, 6, 7, 8, 9, and 13. Includes revenues from scheduled domestic service of freight, air express, priority U.S. mail, foreign mail, excess baggage, and charter freight.

(35) Supplemental: *Ibid.*, p.103. Overall operating revenues of supplemental air carriers, total domestic and international operations. No separation of international and domestic revenues is available.

(36) Passenger, Supplemental: *Ibid.* Sum of civilian (line 1) and military (line 2) passenger revenues. Total domestic and international operations.

(37) Freight, Supplemental: *Ibid.* Sum of civilian (line 3) and military (line 4) property revenues.

(38) Water: Sum of Passenger, Cargo, and Commercial Fishing.

Figure 3. Expenditures and Revenues, 1980 (Cont.)

(39) Passenger, Water: TAA, *Transportation Facts and Trends*, Seventeenth Edition, Dec. 1981, p.5. Figure represents revenues of ICC-regulated carriers. Expenditures for private boating are not available.

(40) Cargo, Water: *Ibid.*, p.2.

(41) Commercial Fishing: U.S. Department of Commerce, *Fisheries of the U.S.*, 1980, p.6.

(42) Pipeline: TAA, *Transportation Facts and Trends*, Seventeenth Edition, Dec. 1981, p.2. Includes revenues of regulated and unregulated oil pipelines.

(43) Air Carrier: Figure represents overall operating revenues of the certificated carriers, total international operations. Revenues of the supplemental carriers international operations are included in the domestic statistic.

(44) Certificated: CAB, *Air Carrier Financial Statistics*, Dec. 1980, p. 7, column 7, line 19. Total international operations.

(45) Passenger, Certificated: *Ibid.*, Sum of lines 3 and 12. Total passenger revenues in scheduled and charter service.

(46) Freight, Certificated: *Ibid.*, Sum of lines 4,5,6,7,8,9 and 13. Includes revenues from scheduled service of freight, air express, priority U.S. mail, non-priority U.S. mail, foreign mail, excess baggage, and charter freight.

(47) Supplemental: Figure included in Domestic Supplemental (35).

(48) Passenger, Supplemental: Figure included in Domestic Supplemental Passenger (36).

(49) Freight, Supplemental: Figure included in Domestic Supplemental Freight (37).

(50) Water: Sum of Passenger and Cargo.

(51) Passenger, Water: TAA, *Transportation Facts and Trends*, Seventeenth Edition, Dec. 1981, p.5.

(52) Cargo, Water: *Ibid.*, p.2.

Figure 4. Vehicle-Miles, 1980

(1) Total Transportation: Sum of Domestic and International.

(2) Domestic: Sum of Highway, Local Transit, Rail, Air, and Water.

(3) International: Sum of Air Carrier and Water.

(4) Highway: Sum of Auto, Truck, and Bus.

Figure 4. Vehicle-Miles, 1980 (Cont.)

(5) Auto: Sum of Personal Passenger Car and Motorcycle.

(6) Personal Passenger Car: Federal Highway Administration, *Highway Statistics,* 1980, Table VM-1. Includes total rural and urban.

(7) Taxi: Data for taxi are included in the Personal Passenger Car category.

(8) Motorcycle: Federal Highway Administration, *Highway Statistics*, 1980, Table VM-1. Includes total rural and urban.

(9) Truck: *Ibid.*

(10) Single-Unit: *Ibid.*

(11) Combinations: *Ibid.*

(12) Bus: Sum of Intercity Bus and School Bus.

(13) **Intercity Bus: American Bus Association, *Bus Facts,* 1981, p.3. Includes Class I, II, and III carriers reporting to the ICC and Intrastate carriers. Preliminary figure.**

(14) **Class I: *Ibid.,* p.19. Total vehicle-miles operated. Preliminary figure.**

(15) Regular-route: *Ibid.* Regular-route intercity service. Preliminary figure.

(16) Local and Suburban: *Ibid.* Local and suburban service. Preliminary figure.

(17) Charter and Special: *Ibid.* Charter and special service. Preliminary figure.

(18) Non-Passenger: *Ibid.* Non-passenger service. Preliminary figure.

(19) Class II and III: Figure derived by subtracting Class I from Intercity Bus.

(20) School Bus. Federal Highway Administration, *Highway Statistics,* 1980, Table VM-1. Includes total rural and urban.

(21) **Local Transit: APTA, *Transit Fact Book,* 1981 edition, Table 13. Total vehicle miles of Light Rail, Heavy Rail, Trolley Coach, and Motorbus.**

(22) Motorbus: *Ibid.*

(23) Trolley Coach: *Ibid.*

(24) Light Rail: *Ibid.*

(25) Heavy Rail: *Ibid.*

(26) Rail: Sum of Passenger and Freight.

Figure 4. Vehicle-Miles, 1980 (Cont.)

(27) Passenger Rail: AAR, *Operating and Traffic Statistics*, August 1981, p.1, column 6. This figure is the sum of the passenger train-miles of Class I railroads and Amtrak (NRPC) train mileage which includes miles with locomotives, and miles of motorcar trains.

(28) Freight, Rail: *Ibid.*, p.1, column 5.

(29) Air: Sum of General Aviation and Air Carrier.

(30) General Aviation: NTSB, *News Release SB 81-1*, Jan. 13, 1981, Table 13.

(31) Air Carrier: Sum of Certificated and Supplemental.

(32) Certificated: Sum of scheduled and non-scheduled domestic certificated.

(33) Scheduled: CAB, *Air Carrier Traffic Statistics*, Dec. 1980, p. 5, column 5, line 27.

(34) Passenger: *Ibid.*, line 25.

(35) Freight: *Ibid.*, line 26.

(36) Non-Scheduled: *Ibid.*, line 50.

(37) Supplemental: *Ibid.*, p. 151, line 21.

(38) Civilian: *Ibid.*, line 19.

(39) Military: *Ibid.*, line 20.

(40) Water: Not available.

(41) International Air Carrier: Sum of Certificated and Supplemental.

(42) Certificated: Sum of scheduled and non-scheduled international certificated.

(43) Scheduled: CAB, *Air Carrier Traffic Statistics*, Dec. 1980, p. 15, column 5, line 27.

(44) Passenger: *Ibid.*, line 25.

(45) Freight: *Ibid.*, line 26.

(46) Non-Scheduled: *Ibid.*, line 50.

(47) Supplemental: *Ibid.*, p. 151, line 21.

(48) Civilian: *Ibid.*, line 19.

(49) Military: *Ibid.*, line 20.

(50) Water: Not available.

Figure 5. Passenger-Miles, 1980

(1) Total Transportation: Sum of Domestic and International.

(2) Domestic: Sum of Highway, Local Transit, Rail, Air, and Water.

(3) International: Sum of Air Carrier and Water.

(4) Highway: Sum of Auto and Bus.

(5) Auto: Sum of Personal Passenger Car, Taxi, and Motorcycle.

(6) Personal Passenger Car: FHWA, *Highway Statistics*, 1980, Table VM-1. Passenger miles derived by multiplying total rural and urban passenger car travel by an average occupancy level of 2.3.

(7) Taxi: Included in Personal Passenger Car.

(8) Motorcycle: FHWA, *Highway Statistics*, 1980, Table VM-1. Passenger miles derived by multiplying total rural and urban motorcycle travel by an average occupancy level of 1.1.

(9) Bus: Sum of Intercity Bus and School Bus passenger-miles.

(10) Intercity Bus: American Bus Association, *Bus Facts*, 1981, p.3. Includes Classes I, II, III carriers reporting to ICC plus Intrastate Carriers. Preliminary figure.

(11) Class I: *Ibid.*, p.5.

(12) Regular-Route: *Ibid.*, p.19.

(13) Class II and III: Figure derived by subtraction of Class I from Intercity.

(14) School Bus: Best estimate by NHTSA, National Center for Statistics and Analysis.

(15) Local Transit: Not available.

(16) Rail: Passenger Rail only.

(17) Passenger Rail: Sum of Commutation and other than Commutation.

(18) Commutation: AAR, *Yearbook of Railroad Facts*, 1981 edition, p. 32.

(19) Other than Commutation: *Ibid.*

(20) Air: Sum of General Aviation and Air Carrier.

(21) General Aviation: TAA, *Transportation Facts and Trends*, Dec. 1981, p.6.

(22) Air Carrier: Sum of Certificated and Supplemental.

(23) Certificated: CAB, *Air Carrier Traffic Statistics*,, Dec. 1980, p. 5, column 5, line 1.

Figure 5. Passenger-Miles, 1980 (Cont.)

(24) Scheduled: *Ibid.*, line 9.

(25) First Class: *Ibid.*, line 7.

(26) Coach: *Ibid.*, line 8.

(27) Non-Scheduled: *Ibid.*, line 41.

(28) Civilian: *Ibid.*, line 39.

(29) Military: *Ibid.*, line 40.

(30) Supplemental: *Ibid.*, p. 151, line 4.

(31) Civilian: *Ibid.*, line 2.

(32) Military: *Ibid.*, line 3.

(33) Water: Not available.

(34) Air Carrier: Sum of Certificated and Supplemental.

(35) Certificated: CAB, *Air Carrier Traffic Statistics*, Dec. 1980, p. 15, column 5, line 1.

(36) Scheduled: *Ibid.*, line 9.

(37) First Class: *Ibid.*, line 7.

(38) Coach: *Ibid.*, line 8.

(39) Non-Scheduled: *Ibid.*, line 41.

(40) Civilian: *Ibid.*, line 39.

(41) Military: *Ibid.*, line 40.

(42) Supplemental: *Ibid.*, p. 151, line 4.

(43) Civilian: *Ibid.*, line 2.

(44) Military: *Ibid.*, line 3.

(45) Water: Not available.

Figure 6. Cargo Ton-Miles, 1980

(1) Total Transportation: Sum of Domestic and International.

(2) Domestic: Sum of Highway, Rail, Air, Water and Pipeline.

Figure 6. Cargo Ton-Miles, 1980 (Cont.)

(3) International: Sum of Air Carrier and Water.

(4) Highway: Figure represents total intercity ton-miles of motor vehicle transport. Local truck and intercity bus ton-miles are not available.

(5) Truck: Intercity truck ton-miles only.

(6) Local Truck: Not available.

(7) Intercity: TAA, *Transportation Facts and Trends*, Seventeenth Edition, Dec. 1981, p.8., Total Intercity ton-miles.

(8) ICC Regulated: Not available.

(9) Non-Regulated: Not available.

(10) Rail: AAR, *Operating and Traffic Statistics*, August 1981, p.6, column 65.

(11) Air: Air Carrier only.

(12) Air Carrier: Sum of Certificated and Supplemental.

(13) Certificated: CAB, *Air Carrier Traffic Statistics*, Dec. 1980, p. 5, column 5, line 3.

(14) Scheduled: Sum of Freight, Air Express, U.S. Mail and Foreign Mail, lines 18-21.

(15) Freight: CAB, *Air Carrier Traffic Statistics*, Dec. 1980, p. 5, column 5, line 18.

(16) Air Express: *Ibid.*, line 19

(17) U.S. Mail: *Ibid.*, line 20.

(18) Foreign Mail: *Ibid.*, line 21.

(19) Non-Scheduled: Sum of Civilian Freight and Military Freight.

(20) Civilian Freight: CAB, *Air Carrier Traffic Statistics*, Dec. 1980, p. 5, column 5, line 44.

(21) Military Freight: *Ibid.*, line 45.

(22) Supplemental: CAB, *Air Carrier Traffic Statistics*, Dec. 1980, p. 151, line 13.

(23) Civilian: *Ibid.*, line 11.

(24) Military: Ibid., line 12.

(25) Water: U.S. Department of the Army, Corps of Engineers, *Waterborne Commerce of the United States, Calendar Year* 1980, *Part 5,* Section 3, Table 1, total domestic ton-miles.

(26) Coastwise: *Ibid.*

(27) Lakewise: *Ibid.*

Figure 6. Cargo Ton-Miles, 1980 (Cont.)

(28) Internal: *Ibid.*

(29) Local: *Ibid.*

(30) Pipeline: TAA, *Transportation Facts and Trends,* Dec. 1981, p.3. Intercity ton-miles.

(31) ICC-Regulated: Estimated to be 84% of total pipeline.

(32) Non-Regulated: Estimated to be 16% of total pipeline.

(33) Air Carrier: Sum of Certificated and Supplemental.

(34) Certificated: CAB, *Air Carrier Traffic Statistics,* Dec. 1980, p. 15, column 5, line 3.

(35) Scheduled: Sum of Freight, Air Express, U.S. Mail and Foreign Mail, lines 18-21.

(36) Freight: CAB, *Air Carrier Traffic Statistics,* Dec. 1980, p. 15, column 5, line 18.

(37) Air Express: *Ibid.*, line 19.

(38) U.S. Mail: *Ibid.*, line 20.

(39) Foreign Mail: *Ibid.*, line 21.

(40) Non-Scheduled: Sum of Civilian Freight and Military Freight.

(41) Civilian Freight: CAB, *Air Carrier Traffic Statistics,* Dec. 1980, p. 15, column 5, line 44.

(42) Military Freight: *Ibid.*, line 45.

(43) Supplemental: *Ibid.*. p.151, line 13.

(44) Civilian: *Ibid.*, line 11.

(45) Military: *Ibid.*, line 12.

(46) Water: U.S. Department of the Army, Corps of Engineers, *Waterborne Commerce of the United States, Calendar Year* 1980, *Part 5,* Section 3, Table 1, total foreign ton-miles.

(47) Great Lakes: *Ibid.*

(48) Coastal Ports: *Ibid.*

Figure 7. Number of Vehicles, 1980

(1) Total Transportation: Sum of Domestic and International.

(2) Domestic: Sum of Highway, Local Transit, Rail, Air, and Water.

(3) International: Sum of Air Carrier and Water.

Figure 7. Number of Vehicles, 1979 (Cont.)

(4) Highway: Sum of Auto, Truck, and Bus.

(5) Auto: Sum of Personal Passenger Car and Motorcycle.

(6) Personal Passenger Car: FHWA, *Highway Statistics*, 1980, Table MV-1. This figure includes private and commercial automobiles (including taxi cabs) as well as publicly owned automobiles for the 50 states and the District of Columbia (Number of Motorized Vehicles Registered).

(7) Taxi: Data for Taxi are included in the Personal Passenger Car category.

(8) Motorcycle: FHWA, *Highway Statistics*, 1980, Table MV-1. This figure is the sum of the private, commercial, and publicly owned motorcycles (Number of Motorized Vehicles)

(9) Truck: *Ibid.* Number of Motorized Vehicles.

(10) Private: *Ibid.*

(11) Public: *Ibid.*

(12) Bus: Sum of Intercity Bus and School Bus.

(13) Intercity Bus: American Bus Association, *Bus Facts*, 1981, p.3. This figure includes operations of Class I, II, and III carriers reporting to the ICC and the Intrastate carriers. Preliminary figure.

(14) Class I: *Ibid.*, p.5.

(15) Class II and III: Figure derived by subtracting Class I from Intercity.

(16) School: FHWA, *Highway Statistics*, 1980, Table MV-10. (Total school and other non-revenue buses).

(17) Local Transit: APTA, *Transit Fact Book*, 1981, Table 15. This figure includes the total number of motorbuses, trolley coaches, and light and heavy rail vehicles. This figure does not include commuter or suburban railroads. Preliminary figure.

(18) Motorbus: *Ibid.*

(19) Trolley Coach: *Ibid.*

(20) Light Rail: *Ibid.*

(21) Heavy Rail: *Ibid.*

(22) Rail: Sum of passenger and freight.

(23) Rail, Passenger: AAR, *Statistics of Railroads of Class I*, 1981, p. 11.

(24) Rail, Freight: *Ibid*, p. 10.

Figure 7. Number of Vehicles, 1980 (Cont.)

(25) Air: Sum of General Aviation and Air Carrier.

(26) General Aviation: FAA, Office of Management Systems, *General Aviation Activity and Avionics Survey*, December 1981, Table 2-9.

(27) Business: *Ibid.* This category includes Business and Executive Transportation.

(28) Commercial: *Ibid.* This category includes Air Taxi, Air Carrier, Aerial Application and Rental.

(29) Instructional: *Ibid.*

(30) Personal: *Ibid.*

(31) Other: *Ibid.* This category includes Other, Executive and Industrial Special.

(32) Air Carrier: Sum of Certificated and Supplemental.

(33) Certificated: CAB, personal communication.

(36) Supplemental: *Ibid.* Charter Airlines.

(39) Water: U.S. Department of the Army, Corps of Engineers, *Summary of U.S. Passenger Flag Vessels,* Annual issues.

(40) Self-Propelled: *Ibid.*

(41) Dry Cargo/Passenger: Ibid.

(42) Ferries, Railroad Car: Ibid.

(43) Tankers: Ibid.

(44) Towboats: Ibid.

(45) Sailing Vessels: Ibid.

(46) Non-Self-Propelled: *Ibid.*

(47) Barges/Scows: *Ibid.*

(48) Tankers: *Ibid.*

(49) Railroad Car Floats: *Ibid.*

(50) Air Carrier: Not available. Figure included in Domestic Air Carrier.

Figure 7. Number of Vehicles, 1980 (Cont.)

(51) Water: U.S. Department of Commerce, Maritime Administration, personal communication.

(52) Government: *Ibid.*

(53) Private: *Ibid.*

Figure 8. Number of Fatalities, 1980

(1) Total Transportation: Not available.

(2) Domestic: Not available.

(3) International: Sum of Air Carrier and Water.

(4) Highway: Sum of Auto, Truck, Bus, Bicycle and Pedestrian.

(5) Auto: Sum of Personal Passenger Car, Taxi, and Motorcycle.

(6) Personal Passenger Car: U.S. DOT, NHTSA/NRD-30, Fatal Accident Reporting System (FARS), personal communication.

(7) Taxi: National Safety Council, *Accident Facts*, 1981.

(8) Motorcycle: U.S. DOT, NHTSA/NRD-30, FARS, personal communication.

(9) Truck: *Ibid.*

(10) Private: Not available.

(11) For Hire: Not available.

(12) ICC Regulated: Not available.

(13) Non-Regulated: Not available.

(14) Bus: Sum of intercity and school bus fatalities.

(15) Intercity Bus: U.S. Department of Transportation, FHWA/BMCS, personal communication.

(16) Class I: Not available.

(17) Class II and III: Not available.

Figure 8. Number of Fatalities, 1980 (Cont.)

(18) School Bus: DOT, FHWA/BMCS, personal communication.

(19) Bicycle: U.S. Department of Transportation, RSPA, *Transportation Safety Information Report,* 1980 Annual Summary, June 1981, Table 4, motor vehicle involvement only.

(20) Pedestrian: *Ibid.*, Motor vehicle involvement only.

(21) Local Transit: *Ibid.*, Table 1.

(22) Rail: *Ibid.*, Table 1. This figure includes railroad passengers, employees, trespassers, and others killed in railroad operations. It does not include those killed in rail/highway grade crossing accidents (883).

(23) Rail Equipment: Not available.

(24) Train: Not available.

(25) Non-Train: Not available.

(26) Air: Sum of General Aviation and Air Carrier.

(27) General Aviation: FAA, ASF-200, personal communication.

(28) Executive: *Ibid.*

(29) Aerial Application: *Ibid.*

(30) Business: *Ibid.*

(31) Commuter: *Ibid.*

(33) Air Taxi: *Ibid.*

(34) Instructional: *Ibid.*

(35) Personal: *Ibid.*

(36) Other: *Ibid.*

(37) Air Carrier: Sum of Certificated and Supplemental.

(38) Air Carrier: National Safety Board, *News Release SB 81-1,* Jan. 13, 1981, Table 6, Scheduled domestic passenger service.

Figure 8. Number of Fatalities, 1980 (Cont.)

(41) Supplemental: NTSB,*News Release 81-1,* January 13, 1981, Table 9.

(45) Water: Not available.

(46) Passenger: Not available.

(47) Private: U.S. Coast Guard, *Boating Statistics, 1980,* p. 21. This figure represents total fatalities in recreational boating.

(48) Inboard: *Ibid.* This figure is the sum of inboard gasoline and diesel powered boats.

(49) Outboard: *Ibid.*

(50) Inboard/Outboard: *Ibid.*

(51) Manual: *Ibid.* This figure includes boats propelled by oars and paddles.

(52) Other: *Ibid.* This figure includes boats propelled by jet, sail, and other methods.

(53) Unknown: *Ibid.* This figure includes all boats in which the propulsion was unknown.

(54) Passenger Service: Not available.

(55) Cargo: Not available.

(56) Commercial Fishing: Not available.

(57) Pipeline: U.S. Department of Transportation, Research and Special Programs Administration, *Transportation Safety Information Report,* 1980 Annual Summary, Chart 28. This figure includes gas distribution and transmission lines (including gathering lines), and liquid transmission lines.

(58) Air Carrier: Sum of International and Supplemental.

(59) Certificated: NTSB, *New Release SB 81-1,* January 13, 1981, Table 7.

(62) Supplemental: NTSB, *News Release SB 81-1,* January 13, 1981, Table 9.

(65) Water: Not available.

Figure 9. Energy Consumed in Transportation (Converted to 10^{12} Btu), 1980

(1) Total Transportation: Sum of Domestic and International.

(2) Domestic: Sum of Highway, Local Transit, Rail, Air, Water and Pipeline.

(3) International: Air Carrier.

(4) Highway: Sum of Personal Passenger Car, Truck, and Bus.

(5) Personal Passenger: Sum of Personal Passenger Car, Taxi, and Motorcycle.

(6) Personal Passenger Car (includes Taxi): FHWA, *Highway Statistics*, 1980, Table VM-1, multiplied by the conversion factor of motor gasoline (125,000 Btu/gallon).

(7) Taxi: Included in Passenger Car.

(8) Motorcycle: FHWA, *Highway Statistics*, 1980, Table VM-1, multiplied by the conversion factor of motor gasoline.

(9) Truck: Sum of Single-Unit and Combination.

(10) Single-Unit: FHWA, *Highway Statistics*, 1980, Table VM-1, multiplied by the conversion factor of motor gasoline.

(11) Combination: *Ibid.*, multiplied by the conversion factor of distillate fuel oil (138,700 Btu/gallon).

(12) Bus: Sum of Class I Intercity, School Bus, and Transit Motorbus.

(13) Class I Intercity: ABA, *Bus Facts*, 1981, p.18, multiplied by the conversion factor of distillate fuel oil.

(14) School Bus: FHWA, *Highway Statistics*, 1980, Table VM-1, multiplied by the conversion factor of motor gasoline.

(15) Motorbus: APTA, *Transit Fact Book*, 1981 edition, Table 17, figure derived by the addition of gasoline (motor gasoline) and diesel (distillate fuel oil), converted to Btu's by their respective conversion factors.

(16) Local Transit: *Ibid.*, figure multiplied by the conversion factor of electricity (1KWh = 3412 Btu).

Figure 9. Energy Consumed in Transportation (Converted to 10^{12} Btu), 1980(Cont.)

(17) Rail: Sum of Passenger and Class I Freight.

(18) Passenger: Sum of Class I Passenger and Amtrak.

(19) Class I Rail Passenger: AAR, *Statistics of Railroads of Class I,* Nov. 1981, p. 16, Lines 3 and 10, multiplied by the conversion factor of distillate fuel oil, excludes electricity.

(20) Amtrak: *Ibid.*, personal communication.

(21) Class I Rail Freight: AAR, *Statistics of Railroads of Class I,* Nov. 1981, p. 16, Line 2, multiplied by the conversion factor of distillate fuel oil.

(22) Air: Sum of Air Carrier and General Aviation.

(23) General Aviation: *General Aviation Activity and Avionics Survey,* Dec. 1981, Table 2-18. Figure derived by the addition of jet fuel (kerosene type) and aviation gasoline, converted to Btu's by their respective conversion factors.

(24) Air Carrier: Sum of Certificated and Supplemental.

(25) Certificated: CAB, *Fuel Cost and Consumption, Twelve Months Ended Dec. 31, 1980 and 1979,* Table 2. Total Domestic Certificated Air Carrier, converted to Btu's and barrels.

(26) Supplemental: *Ibid.*, Domestic Charter. Table 5.

(27) Water: FHWA, *Highway Statistics,* 1980, Table MF-24, multiplied by the conversion factor of motor gasoline.

(28) Pipeline: DOE, Energy Information Administration, *1981 Annual Report to Congress,* Volume Two, Table 47, p. 107, converted to Btu's by thermal conversion factor for natural gas.

(29) Air Carrier. Sum of International Certificated Air Carrier and Supplemental (Charter).

(30) Certificated: CAB, *Fuel Cost and Consumption, Twelve Months Ended Dec. 31, 1980 and 1979,* Total International Certificated Air Carrier, Table 2, multiplied by the conversion factor of jet fuel (kerosene-type).

(31) Supplemental: *Ibid.*, Total International Charter, Table 5, multiplied by the conversion factor of jet fuel (kerosene-type).

(32) Water: Not available.

TABLE REFERENCES

Table 1. Average Passenger Revenue Per Passenger Mile, 1970- 1980

Certificated Air Carrier, Domestic Operations, Scheduled Service:
1970- 1972: CAB, *Handbook of Airline Statistics*, 1973, p. 81, 85, and 88.
1973- 1980: CAB, *Air Carrier Financial Statistics*, Dec. 1974, 1976, 1978, and 1980, p.2, lines 1, 2, 3; *Air Carrier Traffic Statistics*, 1974- 1980 December Issues, p. 4/5, lines 7, 8, 9. Passenger revenue *(Financial Statistics*, p. 2) divided by revenue passenger-miles *(Traffic Statistics, p. 4/5)*, gives average passenger revenue per passenger mile for First Class, Coach and Total, i.e., line 1 divided by line 7, 2 divided by 8, and 3 divided by 9.

Class I Rail:
1970- 1979: AAR, *Statistics of Railroads of Class I*, November 1980, p.8 and p. 18. All Class I average passenger revenue per passenger mile data was calculated by dividing passenger revenue by passenger miles and after 1971 subtracting Amtrak and Auto- Train passenger revenue and revenue passenger mile data. As of 1978, Auto- Train is no longer Class I.
1980: AAR, *Operating and Traffic Statistics*, August 1981, p. 7/8.

Amtrak:
1971- 1979: AAR, *Statistics of Railroads of Class I*, Nov. 1980, p. 18.
1980: AAR, *Operating and Traffic Statistics*, August 1981, p. 7/8.

Class I Intercity Bus:
1970- 1980: ABA, *Bus Facts*, 1981, p. 12.

Consumer Price Index:
1970- 1980: U.S. Department of Commerce, BEA, *Survey of Current Business*, July issues, p. S-6.

Table 2. Average Freight Revenue Per Ton-Mile, 1970- 1980

Certificated Air Carrier, Domestic Operations, Scheduled Service:
1970- 1972: CAB, *Handbook of Airline Statistics*, 1973, p. 93.
1973- 1980: CAB, *Air Carrier Financial Statistics*, Dec. 1974, 1976, 1978, and 1980, p. 2, line 4; *Air Carrier Traffic Statistics*, 1974- 1980 December issues, p. 4/5, line 18. Freight revenue *(Financial Statistics)* divided by revenue ton-miles of freight *(Traffic Statistics)*.

Class I Rail:
1970- 1974: ICC, *Transport Economics*, Vol. III, No. 2, 1976, p. 14.
1975- 1976: *Ibid.*, Vol. V, No. 1, 1978, p. 11.
1977- 1980: AAR, *Operating and Traffic Statistics*, August 1981.

Class I Intercity Motor Carriers, Common and Contract:
1970- 1974: ICC, *Transport Economics*, Vol. III, No. 2, 1976, p. 4.
1975- 1976: *Ibid.*, Vol. V, No. 1, 1978, p. 11.
1977- 1980: Interstate Commerce Commission, Office of Policy and Analysis, personal communication.

Oil Pipelines:
1970- 1974: ICC, *Transport Economics*, Vol. III, No. 2, 1976, p. 4.
1975- 1976: *Ibid.*, Vol. V, No. 1, 1978, p. 11.
1977- 1980: TAA, *Transportation Facts and Trends*, Dec. 1981, p. 8.

Classes A and B Water Carrier, Barge Lines Operating on Mississippi River and Tributaries:
1970- 1974: ICC, *Transport Economics*, Vol. III, No. 2, 1976, p. 4.
1975- 1976: *Ibid.*, Vol. V, No. 1, 1978, p. 11.
1977- 1980: Interstate Commerce Commission, Office of Policy and Analysis, personal communication.

Table 3. Average Passenger Fare, 1970- 1980

Producer Price Index:
1970- 1980: TAA, *Transportation Facts and Trends*, Dec. 1981, p.8.

Certificated Air Carrier, Domestic Operations, Scheduled service:
1970-1972: CAB, *Handbook of Airline Statistics*, 1973. Total passenger revenues (p. 216, line 3) divided by revenue passenger enplanements (p. 106, line 20).
1973-1980: CAB, *Air Carrier Financial Statistics*, Dec. 1974, 1976, 1978, and 1980, p. 2, line 3; *Air Carrier Traffic Statistics*, 1974-1980, December issues, p. 4/5, line 16. Total passenger revenue *(Financial Statistics)* divided by revenue passenger enplanements *(Traffic Statistics)*.

Class I Bus, Intercity:
1970-1980: ABA, *Bus Facts*, 1981, p. 12.

Local Transit:
1970-1980: APTA, *Transit Fact Book*, 1981 edition, Table 14, p. 60.

Class I Rail:
1970-1979: AAR, *Statistics of Railroads of Class I*, November 1980, p. 8, lines 19 and 20 and p. 18. The average passenger fare was calculated by dividing passenger revenue by revenue passengers carried, and after 1971 subtracting Amtrak and Auto-Train passenger revenue and revenue passengers carried data. As of 1978 Auto-Train is no longer Class I.
1980: AAR, *Operating & Traffic Statistics*, August 1981, p 7/8.

Amtrak:
1971-1979: AAR, *Statistics of Railroads of Class I*, Nov. 1980, p. 18. The average passenger fare was calculated by dividing passenger revenue by revenue passengers carried.
1980: AAR, *Operating & Traffic Statistics*, August 1981, p. 7/8.

Table 4. Total Operating Revenues, 1970- 1980

Certificated Air Carriers:
1970-1972: CAB, *Handbook of Airline Statistics*, 1973. Sum of overall operating revenues in total domestic operations (p. 216) and total international and territorial operations (p. 227).
1973-1980: CAB, *Air Carrier Financial Statistics*, 1974-1980 December issues, p. 1, line 19.

Supplemental Air Carriers:
1970-1972: CAB, *Handbook of Airline Statistics*, 1973, p. 69.
1973-1980: CAB, *Air Carrier Financial Statistics*, 1974-1980 December issues, Table 3, Sheet No. 1, line 9.

Intercity Bus, Class I:
1970-1980: ABA, *Bus Facts*, 1981, p. 5.

Local Transit:
1970-1980: APTA, *Transit Fact Book*, 1981 edition, Table 7, p. 50.

Oil Pipeline, ICC Regulated only:
1970-1980: TAA, *Transportation Facts and Trends*, Jan. 1971, Dec. 1974, April 1977, July 1978, Dec. 1981, p. 2/4.

Table 4. Total Operating Revenues, 1970- 1980 (Cont.)

Gas Pipeline:

1970-1980: American Gas Association, *Gas Facts*, annual issues, Table 134.

Class I Intercity Motor Carriers of Property:

1970-1980: ICC, *95th Annual Report of the ICC*, 1981, Table 8 and equivalent tables in earlier editions.

Class I Rail:

1970-1979: AAR, *Statistics of Railroads of Class I.* November 1980, p. 13, line 1. (1979 Figure excludes Rock Island Railroad).

1980: AAR, *Yearbook of Railroad Facts*, 1981 edition, p. 9.

Amtrak:

1971-1979: *Ibid., Statistics of Railroads of Class I*, November 1980, p. 17/18.

1980: AAR, *Yearbook of Railroad Facts*, 1981 edition, p. 62.

Water Transport:

Classes A and B Carriers, Inland and Coastal Waterways:

1970-1979: ICC, *94th Annual Report of the ICC*, 1980, Table 10 and equivalent tables in earlier editions.

Maritime Carriers:

1970-1979: *Ibid.*, Table 11 and equivalent tables in earlier editions.

Class A Freight Forwarders:

1970-1979: *Ibid.*, Table 12 and equivalent tables in earlier editions.

1980: TAA, *Transportation Facts and Trends*, Dec. 1981, p. 2.

Table 5. Vehicle-Miles, 1970- 1980

Air Carriers:

Certified Domestic Operations, All services:

1970-1972: CAB, *Handbook of Airline Statistics*, 1973, p. 106. Aircraft revenue miles in scheduled service (line 35) plus nonscheduled service (line 56).

1973-1980: CAB, *Air Carrier Traffic Statistics*, 1974-1980 Dec. issues, Part III, sheet 1, line 21.

General Aviation:

1970-1980: National Transportation Safety Board, Information Systems Division (TE-50), *News Release SB 81-1*, Jan. 13, 1981, Table 13.

Highway:

Passenger Car and Taxi:

1970-1980: FHWA, *Highway Statistics*, 1980, Table VM-1 and equivalent tables in earlier editions.

Truck:

1970-1980: *Ibid.*

School Bus:

1970-1980: *Ibid.*

Table 5. Vehicle-Miles, 1970- 1980 (Cont.)

Intercity Bus:
1970-1980: ABA, *Bus Facts*, 1981, p. 3.

Local Transit:
1970-1980: APTA, *Transit Fact Book*, 1981 edition, Table 13, p. 58.

Class I Rail:
Passenger Train:
1970-1979: AAR, *Statistics of Railroads of Class I*, November 1980, p. 12, line 15.
1980: AAR, *Operating & Traffic Statistics*, August 1981, p. 1.

Freight Train:
1970-1979: AAR, *Statistics of Railroads of Class I*, November 1980, p. 12, line 15.
1980: AAR, *Operating & Traffic Statistics*, August 1981, p. 1.

Amtrak:
1971-1979: AAR, *Statistics of Railroads of Class I*, Nov. 1980, p. 18. Train mileage includes Auto-Train miles except in 1978, 1979, and 1980.
1980: AAR, *Operating & Traffic Statistics*, August 1981, p. 1.

Table 6. Passenger-Miles, 1970- 1980

Air Carrier:
Certificated:
1970-1972: CAB, *Handbook of Airline Statistics*, 1973, p. 106. Sum of total domestic passenger miles in scheduled service (line 11) and non-scheduled service (line 47);
1973-1980: CAB, *Air Carrier Traffic Statistics*, 1974-1980, December issues, p. 4/5. Sum of lines 9 and 41.
Supplemental:
1970-1972: CAB, *Handbook of Airline Statistics*, 1973, p. 197, line 4;
1973-1980: CAB, *Air Carrier Traffic Statistics*, 1974-1980, December issues, Part III, sheet 1, line 4.

General Aviation:
1970-1980: TAA, *Transportation Facts and Trends*, December 1981, p. 6

Highway:
Passenger Car and Taxi:
1970-1980: FHWA, *Highway Statistics*, 1980, Table VM-1 and equivalent tables in earlier editions. Vehicle-miles multiplied by a constant average occupancy of 2.2.

Intercity Bus:
1970-1980: ABA, *Bus Facts*, 1981, p. 3.

Class I Rail:
Commutation and other than Commutation:
1970-1979: AAR, *Statistics of Railroads Class I*, p. 8 and p. 18. Amtrak and Auto-Train data (p. 18) subtracted from Class I data (p. 8).
1980: AAR, *Operating & Traffic Statistics*, August 1981, p. 8.

Table 6. Passenger-Miles, 1970- 1980 (Cont.)

Amtrak:

Commutation and Other than Commutation:
1971-1979: AAR, *Statistics of Railroads of Class I,* November 1980, p. 18.
1980: AAR, *Operating & Traffic Statistics,* August 1981, p. 8.

Domestic Water:
1970-1976: TAA, *Transportation Facts and Trends,* July 1977, p. 18.
1977-1980: Not available.

Table 7. Cargo Ton-Miles, 1970- 1980

Air Carrier:

Certificated:
1970-1972: CAB, *Handbook of Airline Statistics,* 1973, p. 106. Sum of revenue ton-miles of freight, express, U.S. and foreign mail (lines 2, 3 and 4).
1973-1980: CAB, *Air Carrier Traffic Statistics,* 1974-1980, December issues, p. 4/5, line 3.

Supplemental:
1970-1972: CAB, *Handbook of Airline Statistics,* 1973, p. 35, domestic operations.
1973-1980: CAB, *Air Carrier Traffic Statistics,* 1974-1980, December issues, Part III, sheet 1, line 13.

Oil Pipeline:
1970-1977: ICC, *92nd Annual Report of the ICC,* 1978, p. 134, Table 3 and equivalent tables in earlier editions.
1978-1980: TAA, *Transportation Facts and Trends,* Dec. 1981, p. 3.

Class I Rail:
1970-1979: AAR, *Statistics of Railroads of Class I,* November 1980, p. 6, line 50.
1980: AAR, *Operating & Traffic Statistics,* August 1981, p. 3.

Motor Vehicles:
1970-1980: TAA, *Transportation Facts and Trends,* Dec. 1981, p. 3.

Water Transport:

Inland Waterways, including Great Lakes:
1970-1977: ICC, *92nd Annual Report of the ICC,* 1978, p. 134, Table 3 and equivalent tables in earlier editions.
1978-1980: TAA, *Transportation Facts and Trends,* Dec. 1981, p. 3.

Total Domestic Waterways:
1970-1979: U.S. Army Corps of Engineers. *Waterborne Commerce of the U.S.,* Calender year 1979, Part 5, Table 1, p. 93.
1980: U.S. Army Corps of Engineers, personal communication.

Table 8. Basic Intercity Mileage Within the Continental United States, 1970- 1980

Railroads, All Line Haul:

1970-1979: AAR, *Yearbook of Railroad Facts,* 1981 Edition, p. 46. Data represent aggregate length of roadway of all line-haul railroads, excluding mileage of yard tracks or sidings. Jointly used track is counted only once.
1980: AAR, personal communication.

Oil Pipelines:

Total:
1970-1979: TAA, *Transportation Facts and Trends,* Dec. 1981, p. 13.

Crude Oil Products, and Gathering Lines:
1970-1976: DOE, *Energy Data Reports,* Crude Oil and Product Pipelines, Triennial, January 1, 1977, Table 1.
1977-1980: Not available.

Gas Pipelines:

Total Distribution Mains, Transmission Pipelines, and Field and Gathering Lines,
1970-1978: API, *Basic Petroleum Data Book,* May 1981, Section XII, Table 2.
1979-1980: AGA, *Gas Facts, 1980,* p. 53.

Inland Waterways:

1970-1980: American Waterways Operators, *Inland Waterborne Commerce Statistics,* 1979, and previous years, pp. 1, 2.

Highways:

1970-1975: FHWA, *Highway Statistics, Summary to 1975,* Table FM-210.
1976-1979: *Ibid., Highway Statistics,* annual issues, Table FM-1/FM-2.
1980: *Ibid.,* 1980, Table HM-14.

Airways:

1970-1980: FAA, *FAA Statistical Handbook of Aviation,* 1980, Table 2.1. Mileage equals sum of VHF low altitude direct and VHF jet route mileages multiplied by 1.151 to convert from nautical miles.

Table 9. Number of Vehicles, 1970- 1980

Air Carrier:

1970-1972: CAB, *Handbook of Airline Statistics,* 1973, Part VII, Table 7a and similar tables in earlier editions or by special communication from CAB.
1973: CAB, Statistical Data Division, personal communication.
1974: CAB, Supplement to *Handbook of Airline Statistics,* Dec. 1975, p. 126.
1975: CAB, Bureau of Accounts and Statistics: Special communication based on CAB Form 41, Schedule T-2.
1976: CAB, Supplement to *Handbook of Airline Statistics,* Dec. 1977, Part VII, Table 7A.
1977-1980: CAB, Bureau of Carrier Accounts and Audits: Special communication based on CAB Form 41, Schedules B-7, B-8, and B-43.

General Aviation:

1970-1977: FAA, *FAA Statistical Handbook of Aviation,* 1978, Table 8.3 and equivalent tables in earlier editions.
1978-1980: FAA, *General Aviation Activity and Avionics Survey,* March 1980, January 1981, December 1981, Table 2-6.

Table 9. Number of Vehicles, 1970- 1980 (Cont.)

Motorcycle:
1970-1980: FHWA, *Highway Statistics*, 1980, Table VM-1 and same table in earlier editions.

Passenger Car and Taxi:
1970-1980: *Ibid.*

Intercity Bus:
1970-1980: ABA, *Bus Facts*, 1981, p.3.

Local Transit:
1970-1980: APTA, *Transit Fact Book*, 1981 edition, Table 15.

Class I Rail:
Freight Cars:
1970-1979: AAR, *Statistics of Railroads of Class I*, November 1980, p. 10, minus Amtrak and Auto-Train data.
1980: AAR, *Operating & Traffic Statistics*, August 1981, p. 4.

Locomotives:
1970-1979: AAR, *Statistics of Railroads of Class I*, November 1980, p. 9, line 5, minus Amtrak and Auto-Train data.
1980: AAR, *Operating & Traffic Statistics*, August 1981, p. 4.

Passenger Cars and Pullman:
1970-1979: AAR, *Statistics of Railroads of Class I*, November 1980, p. 11, line 8 minus Amtrak and Auto-Train data.
1980: AAR, *Operating & Traffic Statistics*, August 1981, p. 4.

Amtrak:
Passenger Cars and Pullman and Locomotives:
1971-1979: AAR, *Statistics of Railroads of Class I*, November 1980, p. 18.
1980: AAR, *Operating & Traffic Statistics*, August 1981, p. 4.

Truck:
1970-1980: FHWA, *Highway Statistics*, 1980, Table VM-1, and same table in earlier editions.

Water Transport:
Total Inland Water Vessels:
1970-1979: Sum of Non-self-propelled Vessels and Self-propelled Vessels.

Non-Self-propelled Vessels and Self-propelled Vessels:
1970-1980: U.S. Army Corps of Engineers, *Summary of U.S. Passenger Flag Vessels*, Annual issues.

Oceangoing Steam and Motor Ships:
1970-1971: U.S Department of Commerce, Maritime Administration, *Merchant Fleets of the World*, 1966-1972, p. 6.
1972-1974: *Ibid., Commerce News, Merchant Marine Data Sheet*, 1972-1974.
1975: *Ibid., Merchant Fleets of the World*, Dec. 1976, p. 6
1976: *Ibid., Merchant Fleets of the World*, Dec. 1977, p. 2
1977-1978: *Ibid., Merchant Fleets of the World*, Jan. 1979, Oct. 1980, p. 7.
1979: *Ibid., A Statistical Analysis of the World's Merchant Fleets*, June 1981.
1980: *Ibid., Merchant Fleets of the World*, Dec. 1981, p.2.

Table 10. Number of New Vehicles Purchased, By Mode, 1970- 1980

Air Carrier:
1970-1978: FAA, *Statistical Handbook of Aviation,* Calendar Year 1978, p. 132, Table 9-2.
1979: *Ibid.,* personal communication.

General Aviation:
1970-1978: FAA, *Statistical Handbook of Aviation,* Calendar Year 1978, Table 9-2.
1979: General Aviation Manufacturers Association, personal communication.

Passenger Car and Taxi:
1970-1980: DOC, Bureau of Economic Analysis, *Survey of Current Business,* July issues, p. S-36/S-40.

Motorcycle:
1970-1980: Motorcycle Industry Council, Inc. *1981 Motorcycle Statistical Annual, p. 12.*

Mopeds:
1974-1980: Motorcycle Industry Council, Inc., *1981 Motorcycle Statistical Annual, p. 12.*

Bicycle:
1970-1980: Bicycle Mfg. Assoc. of America, personal communication.

Truck:
1970-1980: DOC, Bureau of Economic Analysis, *Survey of Current Business,* July issues, p. S-36/S-40.

Intercity Bus (Class I):
1970-1980: ABA, personal communication.

Local Transit (New Passenger Vehicles Delivered):
1970-1980: APTA, *Transit Fact Book, 1981 edition, Table 16.*

Class I Rail:
Freight Cars:
1970-1979: AAR, Statistics of Railroads of Class I, November 1980, p. 10.
1980: AAR, personal communication.

Locomotives:
1970-1979: *Ibid., Statistics of Railroads of Class I,* November 1980, p. 9, line 19.
1980: AAR, personal communication.

Passenger Cars and Pullman:
1970-1979: *Ibid., Statistics of Railroads of Class I,* November 1980, p. 11, line 10.
1980: AAR, personal communication.

Amtrak:
1971-1979: AAR, *Statistics of Railroads of Class I,* November 1980, p. 18.
1980: AAR, personal communication.

Water: Merchant Vessels and Gross Tonnage:
1970-1977: DOC, *Merchants Fleets of the World,* 1977, p. 18; 1976, p. 44; 1975, p. 31; 1974, p. 19; 1973, p. 13; 1972, p. 13; 1971, p. 13; 1970, p. 12.
1978-1980: DOC, Maritime Administration, personal communication.

Table 11. Passenger Fatalities Per 100,000 Passenger miles, 1970- 1980

Motorcycle:

1970-1980: National Safety Council; *Accident Facts,* 1981 edition, p. 56 (approximation: divide deaths per 100,000,000 miles of motorcycle travel by 1.1).

Others:

1970-1978: FAA, *Statistical Handbook of Aviation,* 1979, Table 10.11.
1979-1980: National Safety Council, *Accident Facts,* 1980, p. 75.

Table 12. Personal Consumption Expenditures by Transportation Sector, 1970- 1980

1970-1979: U.S Department of Commerce, Bureau of Economic Analysis, *National Income and Product Accounts of the U.S., 1929-1979 Statistics,* Table 2.4, lines 63-81.
1980: *Ibid., Survey of Current Business,* July 1981, Table 2.4, lines 63-81.

Table 13. Personal Consumption Expenditures by Type of Product, 1970- 1980

1970-1979: U.S Department of Commerce, Bureau of Economic Analysis, *National Income and Product Accounts of the U.S., 1929-1979 Statistics,* Table 2.4, lines 2, 10, 20, 23, 28, 44, 55, 63, 82, 98, 102, and 104.
1980: *Ibid., Survey of Current Business,* July 1981, *Table 2.4.*

Table 14. National Income by Transportation Sector, 1970- 1980

1970-1971: U.S Department of Commerce, Bureau of Economic Analysis, *Benchmark Revision of National Income and Product Accounts,* February 1976, Table 6.3, lines 36-43.

1972-1980: *Ibid., National Income and Product Tables, 1972-1979,* Table 6.3B, lines 38-45.

Table 15. Average Annual Earnings Per Full-Time Employees by Transportation Sector, 1970- 1980

1970-1971: U.S Department of Commerce, Bureau of Economic Analysis, *Benchmark Revision of National Income and Product Accounts,* February 1976, Table 6.7.

1972-1980: *Ibid., National Income and Product Tables, 1972-1980,* Table 6.9B, lines 38-45.

Table 16. Wages and Salaries by Transportation Sector, 1970- 1980

1969-1971: U.S Department of Commerce, Bureau of Economic Analysis, *Benchmark Revision of National Income and Product Accounts,* February 1976, Table 6.6, lines 36-43.

1972-1979: *Ibid., National Income and Product Tables, 1972-1980,* Table 6.6B, lines 38-45.

Table 17. Employment in Transportation and Related Industries, 1970- 1980

Transport Sector:

Air:
1970-1974: U.S. Department of Labor, Bureau of Labor Statistics, *Employment and Earnings, United States, 1909-75,* p. 599.
1975-1976: *Ibid., Employment and Earnings,* March 1976, March 1977, Section B-2, SIC 45.
1977-1980: Ibid., *Supplement to Employment and Earnings, Revised Establishment Data,* August 1981, SIC 45.

Bus:
1970-1974: *Ibid., Employment and Earnings, United States, 1909-75,* p. 595.
1975-1976: *Ibid., Employment and Earnings,* March 1976, March 1977, Section B-2, SIC 413.
1977-1980: Ibid., *Supplement to Employment and Earnings, Revised Establishment Data,* August 1981, SIC 413.

Local Transport:
1970-1974: *Ibid., Employment and Earnings, United States, 1909-75,* p. 594.
1975-1976: *Ibid., Employment and Earnings,* March 1976, March 1977, Section B-2, SIC 411.
1977-1980: Ibid., *Supplement to Employment and Earnings, Revised Establishment Data,* August 1981, SIC 411.

Railroad:
1970-1974: *Ibid., Employment and Earnings, United States, 1909-75,* p. 600.
1975-1976: *Ibid., Employment and Earnings,* March 1976, March 1977, Section B-2, SIC 40.
1977-1980: Ibid., *Supplement to Employment and Earnings, Revised Establishment Data,* August 1981, SIC 40.

Oil Pipeline:
1970-1974: *Ibid., Employment and Earnings, United States, 1909-75,* p. 600.
1975-1976: *Ibid., Employment and Earnings,* March 1966, March 1977, Section B-2, SIC 46.
1977-1980: Ibid., *Supplement to Employment and Earnings, Revised Establishment Data,* August 1981, SIC 46. ICC regulated companies employ approximately 85% of the total.

Taxi:
1970-1974: *Ibid., Employment and Earnings, United States, 1909-75,* p. 595.
1975-1976: *Ibid., Employment and Earnings,* March 1976, March 1977, Section B-2, SIC 412.
1977-1980: Ibid., *Supplement to Employment and Earnings, Revised Establishment Data,* August 1981, SIC 412.

Trucking and Warehousing:
1970-1974: *Ibid., Employment and Earnings, United States, 1909-75,* p. 596-598.
1975-1976: *Ibid., Employment and Earnings,* March 1976, March 1977, Section B-2, SIC 42.
1977-1980: Ibid., *Supplement to Employment and Earnings, Revised Establishment Data,* August 1981, SIC 42.

Trucking and Terminals:
1970-1974: *Ibid., Employment and Earnings, United States, 1909-75,* p. 313.
1975-1976: *Ibid., Employment and Earnings,* March 1976, March 1977, Section B-2, SIC 421,3.
1977-1980: Ibid., *Supplement to Employment and Earnings, Revised Establishment Data,* August 1981, SIC 421,3.

Public Warehousing:
1970-1974: *Ibid., Employment and Earnings, United States, 1909-75,* p. 313.
1975-1976: *Ibid., Employment and Earnings,* March 1976, March 1977, Section B-2, SIC 422.
1977-1980: ibid., *Supplement to Employment and Earnings, Revised Establishment Data,* August 1981, SIC 422.

Table 17. Employment in Transportation and Related Industries, 1970- 1980 (Cont.)

Water:
1970-1974: *Ibid., Employment and Earnings, United States, 1909-75,* p. 601.
1975-1976: *Ibid., Employment and Earnings,* March 1976, March 1977, Section B-2, SIC 44.
1977-1980: Ibid., *Supplement to Employment and Earnings, Revised Establishment Data,* August 1981, SIC 44.

Transportation Services:
1970-1974: *Ibid., Employment and Earnings, United States, 1909-75,* p. 601.
1975-1976: *Ibid., Employment and Earnings,* March 1976, March 1977, Section B-2, SIC 47.
1977-1980:Ibid., *Supplement to Employment and Earnings, Revised Establishment Data,* August 1981, SIC 47.

Equipment Manufacturing:

Aircraft and Parts:
1970-1974: Ibid., *Employment and Earnings, United States, 1909-75,* p. 313.
1975-1976: *Ibid., Employment and Earnings,* March 1976, March 1977, Section B-2, SIC 372.
1977-1980: Ibid., *Supplement to Employment and Earnings, Revised Establishment Data,* August 1981, SIC 372.

Motor Vehicles and Equipment:
1970-1974: *Ibid., Employment and Earnings, United States, 1909-75,* p. 302, 571.
1975-1976: *Ibid., Employment and Earnings,* March 1976, March 1977, Section B-2 SIC 301 and 371.
1977-1980: Ibid., *Supplement to Employment and Earnings, Revised Establishment Data,* August 1981, SIC 301 and 371. Sum of motor vehicles and equipment and tires.

Railroad Equipment:
1970-1974: *Ibid., Employment and Earnings, United States, 1909-75,* p. 329.
1975-1976: *Ibid., Employment and Earnings,* March 1976, March 1977, Section B-2, SIC, 374.
1977-1980: Ibid., *Supplement to Employment and Earnings, Revised Establishment Data,* August 1981, SIC 374.

Ships and Boat Building and Repair:
1970-1974: *Ibid., Employment and Earning, United States, 1909-75,* p. 323.
1975-1976: *Ibid., Employment and Earnings,* March 1976, March 1977, Section B-2, SIC 373.
1977-1980: Ibid., *Supplement to Employment and Earnings, Revised Establishment Data,* August 1981, SIC 373.

Other:
1970-1974: *Ibid., Employment and Earnings, United States, 1909-75,* p. 332.
1975-1976 *Ibid., Employment and Earnings,* March 1976, March 1977, Section B-2, SIC 376 and 379.
1977-1980: Ibid., *Supplement to Employment and Earnings, Revised Establishment Data,* August 1981, SIC 376 and 379.

Related Industries:

Automotive and Accessory Retailers:
1970-1974: *Ibid., Employment and Earnings, United States, 1909-75,* p. 648-649.
1975-1976: *Ibid., Employment and Earnings,* March 1976, March 1977, Section B-2, SIC 551 and 553.
1977-1980: Ibid., *Supplement to Employment and Earnings, Revised Establishment Data,* August 1981, SIC 551 and 553. Sum of motor vehicle dealers and other automotive and accessory dealers.

Automotive Wholesalers:
1970-1974: *Ibid., Employment and Earnings, United States, 1909-75,* p. 621.
1975-1976: *Ibid., Employment and Earnings,* March 1976, March 1977, Section B-2, SIC 501.
1977-1980: Ibid., *Supplement to Employment and Earnings, Revised Establishment Data,* August 1981, SIC 501.

Table 17. Employment in Transportation and Related Industries, 1970- 1980 (Cont.)

Automotive Services and Garages:
1970-1976: TAA, *Transportation Facts and Trends*, July issues, p. 22/23.
1977-1980: U.S. Department of Labor, Bureau of Labor Statistics, *Supplement to Employment and Earnings, Revised Establishment Data*, August 1981, SIC 75.

Gasoline Service Stations:
1970-1974: *Ibid., Employment and Earnings, United States, 1909-75*, p. 649.
1975-1976: *Ibid., Employment and Earnings*, March 1976, March 1977, Section B-2, SIC 554.
1977-1980: Ibid., *Supplement to Employment and Earnings, Revised Establishment Data*, August 1981, SIC 554.

Highway and Street Construction:
1970-1974: *Ibid., Employment and Earnings, United States, 1909-75*, p. 29.
1975-1976: *Ibid., Employment and Earnings*, March 1976, March 1977, Section B-2, SIC 161.
1977-1980: Ibid., *Supplement to Employment and Earnings, Revised Establishment Data*, August 1981, SIC 161.

Petroleum:
1970-1974: *Ibid., Employment and Earnings, United States, 1909-75*, pp. 17, 563-619.
1975-1976: *Ibid., Employment and Earnings*, March 1976, March 1977, Section B-2, SIC 13, 291, and 50. Sum of SIC 13, 291, and 4.5% of SIC 50 (to account for petroleum bulk stations and terminals). The totals are adjusted for 56% transportation use.
1977-1980: *Ibid., Supplement to Employment and Earnings, Revised Establishment Data*, August 1981, SIC 13, 291, and 50.

Other Industries:
Truckdrivers and Deliverymen:
1970-1979: TAA, *Transportation Facts and Trends*, July issues, p. 22/23.
Shipping and Receiving Clerks:
1970-1979: *Ibid.*

Government Employees:
U.S.D.O.T.
1970-1980: DOC, *Statistical Abstract of the U.S.*, 102nd edition, Dec. 1981, Table 459 and similar tables in earlier editions.
State and Local Highway:
1970-1980: *Ibid.*, Table 507 and similar table in earlier editions.
Post Office:
1970-1980: *Ibid.*, Table 459 and similar table in earlier editions. Figures based on assuming 14% of postal workers are engaged in transport work.
Other:
1970-1980: Ibid., Table 459 and similar table in earlier editions. Includes CAB, FMC, ICC, RRB, MarAd, and estimated percentage of USCG.

Total Civilian Labor Force:
1970-1980: *Ibid.*, Table 634.

Table 18. National Transportation and Economic Trends, 1970- 1980

Passenger-Miles:
1970-1980: Summation of all modes from Table 6, p. 52.

Table 18. National Transportation and Economic Trends, 1970- 1980 (Cont.)

Ton Miles:
1970-1980: Summation of all modes from Table 7, p. 54
Population:
1970-1980: Department of Commerce, Bureau of the Census, *Statistical Abstract of the U.S.*, 102nd Edition, December 1981, Table 8, p. 9.
Industrial Production:
1970-1980: *Ibid.*, Bureau of Economic Analysis, *Survey of Current Business*, Vol. 61, No. 7, July 1981, p. S-2, and same table in earlier editions.
Gross National Product:
1970-1980: *Ibid.*, Table 1.1, p. 11, and similar table in earlier editions

Table 19. Expenditures and Overseas Travel by U.S. Residents and Foreign Visitors, 1970- 1980

U.S. Residents - Overseas Travelers:
1970-1980: Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business* May 1981, Table 8, p. 34 and similar table in earlier editions.

Average Expenditures:
1970-1980: *Ibid.*, Table 6, p. 33 and similar table in earlier editions.

Total Travel and Passenger Fare Transactions:
1970-1980: *Ibid.*, Table 1/5, p. 29/33 and similar table in earlier editions.

Foreign Visitors to U.S.:
1970-1980: *Ibid.*, Table 4, p. 32 and similar table in earlier editions.

Total Travel and Passenger Fare Transactions:
1970-1980: *Ibid.*, Tables 1/2, p. 29/30 and similar table in earlier editions.

Table 22. Fuel Consumption by Mode of Transport, 1970- 1980

Class I Rail:
Locomotives and Motor Cars:
1970-1979: AAR, *Statistics of Railroads of Class I*, November 1980, p. 16, lines 2, 3, 4, 5, line 7, 10 and 11.
1980: AAR, personal communication.

Table 22. Fuel Consumption by Mode of Transport, 1969-1979 (Cont.)

Air Carriers:

Certificated Carriers:

1970-1975: FAA, *FAA Statistical Handbook of Aviation*, 1975, Table 6.27.

1976-1980: CAB, *Fuel Cost and Consumption, Twelve Months Ended Dec. 31, 1980 and 1979*, Total of Tables 2, 3, 4, 6 and 7 and same table in earlier editions.

General Aviation:

1970-1972: FAA, *FAA Statistical Handbook of Aviation*, 1972, Table 9.12 and same table in earlier editions.

1973-1975: FAA, Information and Statistical Division, personal communication.

1976-1977: FAA, Office of Aviation Policy, personal communication.

1978-1980: FAA, *General Aviation Activity and Avionics Survey*, December 1981, Table 2-18, and same table in earlier editions.

Highway:

1970-1980: FHWA, *Highway Statistics, 1980*, Table VM-1 and same table in earlier editions.

Water Transport:

Residual and Distillate Fuel Oil:

1970-1974: Bureau of Mines, *Mineral Industry Surveys, Fuel Oil Sales-Annual*, Sept. 17, 1976, Table 2 and 3 and equivalent tables in earlier editions.

1975-1980: U.S. Department of Energy, *Energy Data Reports, Deliveries of Fuel Oil and Kerosene in 1980*, Table 12 and 13, and same table in earlier editions. Converted to gallons by multiplying by 42 gallons per barrel.

Gasoline:

1970-1980: FHWA, *Highway Statistics, 1980*, Table MF-24 and same table in earlier editions.

Transit:

1970-1980: APTA, *Transit Fact Book*, 1981 edition, Table 17.

Pipelines:

1970-1974: American Gas Association, *Gas Facts*, 1975, Table 53.

1975: U.S. Dept. of the Interior, Bureau of Mines, *Natural Gas, Annual*, 1975, Table 6.

1976-1980: U.S. Dept. of Energy, *Energy Data Reports, Natural Gas, Annual*, 1980, Table 10.

Total Non-Highway Use of Gasoline:

1970-1980: FHWA, *Highway Statistics*, 1980, Table MF-21 and same table in earlier editions.

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(1) American Bus Association, *Bus Facts,* 1981 edition.

(2) American Gas Association, *Gas Facts,* 1970.

(3) *Ibid.,* 1980.

(4) American Public Transit Association, *Transit Fact Book, 1981.*

(5) American Trucking Association, *Truck Taxes by State,* 30th Annual Edition, March 1982.

(6) *Ibid., American Trucking Trends,* 1979-1980.

(7) American Waterway Operators, *Inland Waterborne Commerce Statistics,* 1970, 1979.

(8) Association of American Railroads, *Government and Private Expenditures for Highway, Waterway, Railroad and Air Rights of Way,* September 1976.

(9) *Ibid., Statistics of Railroads of Class I in the U.S.,* Years 1969- 1980, November 1980, 1981.

(10) *Ibid., Yearbook of Railroad Facts,* 1970 and 1981 editions.

(11) *Ibid., Operating & Traffic Statistics,* August 1981.

(12) Association of Oil Pipelines, personal communication.

(13) Civil Aeronautics Board, personal communication.

(14) *Ibid., Air Carrier Financial Statistics,* December 1980.

(15) *Ibid., Air Carrier Traffic Statistics,* December 1980.

(16) *Ibid., Handbook of Airline Statistics,* 1973 edition.

(17) Federal Power Commission, *Sales by Producers of Natural Gas to Interstate Pipeline Companies,* 1970.

(18) Interstate Commerce Commission, *86th/87th Annual Report of the ICC,* 1972, 1973.

(19) *Ibid., 94th Annual Report of the ICC,* 1981.

(20) *Ibid., 94th Annual Report of the ICC,* 1982.

(21) *Ibid.,* Bureau of Accounts and Statistics, personal communication.

(22) National Safety Council, *Accident Facts,* 1971, 1980, 1981.

(23) National Transportation Safety Board, Information Systems Division, personal communication.

(24) *Ibid., News Release SB 81-1,* January 13, 1981.

(25) *Oil and Gas Journal,* November 23, 1981 issue.

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(26) Transportation Association of America, *Transportation Facts and Trends*, 16th edition, July 1980.

(27) *Ibid.*, 17th edition, December 1981.

(28) *Ibid.*, Quarterly Supplements, July 1975, April 1979, January 1980, and October 1980.

(29) U.S. Army Corps of Engineers, *Waterborne Commerce of the United States*, Part 5, Calendar Year 1979.

(30) *Ibid.*, Calendar Year 1980.

(31) U.S. Coast Guard, *Boating Statistics*, 1970.

(32) *Ibid.*, 1979, 1980.

(33) *Ibid.*, *Proceedings of the Marine Safety Counsil*, December 1980.

(34) U.S. Department of Commerce, Bureau of Economic Analysis, *National Income and Product Accounts of the U.S.*, 1929-1979 Statistics.

(35) *Ibid.*, *Survey of Current Business*, July 1981.

(36) *Ibid.*, *Fisheries of the U.S.*, 1980, April 1981.

(37) *Ibid.*, Bureau of the Census, *Statistical Abstract of the United States*, 1981, 102nd edition.

(38) U.S. Department of Energy, Energy Information Administration, *Natural Gas Annual*, 1980.

(39) *Ibid.*, *Energy Data Reports*, Petroleum Statement, Annual, 1979, 1980.

(40) *Ibid.*, *Statistics of Interstate Natural Gas Pipeline Companies*, October 1980.

(41) *Ibid.*, National Energy Information Center, personal communication.

(42) U.S. Department of Labor, Bureau of Statistics, *Employment and Earnings*, 1909-1978 Bulletin 1312-11, July 1979.

(43) *Ibid.*, *Supplement to Employment and Earnings, Revised Establishment Data*, August 1981.

(44) U.S. Department of Transportation, Federal Aviation Administration, *FAA Statistical Handbook of Aviation*, 1972 edition.

(45) *Ibid.*, Office of Management Systems, *General Aviation Activity and Avionics Survey*, January 1981, December 1981

(46) *Ibid.*, Federal Highway Administration, *Highway Statistics*, 1970, 1979, 1980.

(47) *Ibid.*, *Highway Statistics Summary to 1975*, October 1977.

(48) *Ibid.*, News Release, Table HF-11.

(49) *Ibid.*, Federal Highway Administration, Bureau of Motor Carrier Safety, *Accidents of Motor Carriers of Property*, 1979.

Profile References (Cont.)

(50) *Ibid.*, Federal Railroad Administration, Office of Standards and Procedures, personal communication.

(51) *Ibid.*, Maritime Administration, personal communication.

(52) *Ibid.*, NHTSA/FHWA, *Highway Safety*, 1979, 1980.

(53) *Ibid.*, NHTSA/NRD30, National Center for Statistics and Analysis, Mathematical Analysis Division, Fatal Accident Reporting System, FARS, (30 day deaths), personal communication.

(54) *Ibid.*, Research and Special Programs Administration (DPA-26), *Transportation Safety Information Report*, October, November, December 1978 and Annual Summary, March 1979; October, November, December 1979 and Annual Summary, May 1980, and 1980 Annual Summary, June 1981.

APPENDIX B

Glossary

AIR CARRIER TERMINOLOGY

AIRBORNE SPEED:

Often called "wheels-off wheels-on speed." The average speed of an aircraft while airborne, computed using great-circle airport-to-airport distance.

AIR CARRIER:

Any carrier operating under Code of Federal Regulations, Title 14, Part 121. Includes those operators who have been issued a Certificate of Public Convenience and Necessity by the Civil Aeronautics Board, i.e., certificated route air carriers and supplemental air carriers. Commercial operators of large aircraft (over 12,500 pounds) are also classified as air carriers.

AIRCRAFT ACCIDENT:

For the purpose of this report, an aircraft accident is "an occurrence associated with the operation of an aircraft which takes place between the time any person boards the aircraft with the intention of flight until such time as all such persons have disembarked, in which any person suffers death or serious injury as a result of being in or upon the aircraft or by direct contact with the aircraft or anything attached thereto, or the aircraft receives substantial damage."

AIRCRAFT OPERATION:

An aircraft arrival at, or departure from, an airport with FAA airport traffic control service. There are two types of operations — local and itinerant.

1. Local operations are performed by aircraft which:
   (a) operate in the local traffic pattern or within sight of the tower;
   (b) are known to be departing for, or arriving from, flight in local practice areas located within a 20-mile radius of the control tower;
   (c) execute simulated instrument approaches or low passes at the airport.
2. Itinerant operations:

   All aircraft arrivals and departures other than local operations.

AIRCRAFT REVENUE MILES:

The miles (based on airport-to-airport distances) for each interairport hop actually completed in revenue service, whether or not performed in accordance with the scheduled pattern. For this purpose, operation to a flag stop is a hop completed even though a landing is not actually made. In cases where the interairport distances are inapplicable, aircraft miles flown are determined by multiplying the normal cruising speed for the aircraft type by the airborne hours.

AIR TAXI OPERATIONS:

Air taxi operations and commuter air carrier operations (takeoffs and landings) carrying passengers, mail, or cargo for revenue in accordance with Federal Air Regulations (FAR) Part 135 or Part 121.

ALL-CARGO CARRIER:

One of a class of air carriers holding certificates of public convenience and necessity (issued by the Civil Aeronautics Board) authorizing the performance of scheduled air freight, express, and mail transportation over specified routes as well as the conduct of nonscheduled operations, which may include passengers.

ALL OPERATIONS:

Refers to all flight operations including test, training, ferry, scheduled and nonscheduled passenger and cargo service, both revenue and nonrevenue.

AVIATION GASOLINE (AVGAS):

All special grades of gasoline for use in aviation reciprocating engines, as given in ASTM Specification D 910. Includes all refinery products within the gasoline range that are to be marketed straight or in blends as aviation gasoline without further processing (i.e., any refinery operation except mechanical blending). Also includes finished components in the gasoline range which will be used for blending or compounding into aviation gasoline.

CERTIFICATED CARRIER:

One of a class of air carriers holding certificates of public convenience and necessity issued by the CAB, authorizing the performance of scheduled air transportation over specified routes and a limited amount of nonscheduled operations. This general carrier grouping includes the all purpose carriers (i.e., the so-called passenger/cargo carriers) and the all-cargo carriers, and comprise all of the airlines certificated by the Board, except the supplemental air carriers. Certificated route air carriers are often referred to as "scheduled airlines," although they also perform nonscheduled service.

CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY, "CC AND N":

A certificate issued to an air carrier under Section 401 of the Federal Aviation Act, by the Civil Aeronautics Board, authorizing the carrier to engage in air transportation.

COMMERCIAL OPERATOR:

A commercial operator is an air carrier certificated to engage in scheduled intrastate common carrier operations and private carriage in interstate operations. The intended interstate operations will not be in common carriage. A "CC and N" is not required of a commercial operator.

COMMUTER AIR CARRIERS:

Commuter air carriers are certificated air taxi operators who perform scheduled services, as defined by the CAB as "those operators who perform, pursuant to published schedules, at least five round trips per week between two or more points, or carry mail."

DOMESTIC OPERATIONS:

Operations within and between the 50 States and the District of Columbia. Includes domestic operations of the certificated trunk carriers, Pan American, local service, helicopter, intra-Alaska, intra-Hawaii, domestic all-cargo, and other carriers; also includes transborder operations conducted on the domestic route segments of U.S. air carriers.

FIXED-WING AIRCRAFT:

Aircraft having nonrotating wings fixed to the airplane fuselage and outspread in flight.

GENERAL AVIATION:

General Aviation refers to the operation of U.S. Civil Aircraft owned and operated by persons, corporations, etc., other than those engaged in U.S. air carrier operations. (U.S. air carrier operations include the certificated route air carriers, supplemental air carriers, and commercial operators of large aircraft.)

INTERNATIONAL OPERATIONS:

Operations outside the territory of the United States, including operations between the United States and foreign countries and between the United States and its territories and possessions. Includes both the combination passenger/cargo carriers and the all-cargo carriers engaged in international and territorial operations.

JET ENGINE:

An engine which converts fuel and air into a fast-moving stream of hot gases which effect propulsion of the device of which the engine is a part.

JET FUEL:

Includes both naphtha-type and kerosene-type fuels meeting standards for use in aircraft turbine engines. Although most jet fuel is used in aircraft, some is used for other purposes such as for generating electricity in gas turbines.

KEROSENE-BASE JET FUEL:

A quality kerosene product with an average gravity of 40.7 degrees API and 10 to 90% distillation temperatures of 217 to 261 degrees Centigrade. Used primarily as fuel for commercial turbojet and turboprop aircraft engines. It is a relatively low freezing point distillate of the kerosene type.

NAPHTHA-BASE JET FUEL:

A fuel in the heavy naphtha boiling range with an average gravity of 52.8 degrees API and 10 to 90% distillation temperatures of 117 to 233 degrees C. Used for turbojet and turboprop aircraft engines, primarily by the military. Excludes ramjet and petroleum.

NONOPERATING INCOME AND EXPENSES:

Income and loss of commercial ventures not part of the common carrier air transport services of the accounting entity; other revenues and expenses attributable to financing or other activities that are extraneous to and not an integral part of air transportation or its incidental services.

NONREVENUE FLIGHTS:

Flights and flight stages involving training, test, technical, positioning for scheduled flights, ferry, company business, publicity and forced returns for which no remuneration is received.

NONSCHEDULED FREIGHT:

Property carried in charter operations.

NONSCHEDULED SERVICE:

Revenue flights not operated in regular scheduled service, principally contract and charter operations.

OPERATING EXPENSES:

Expenses incurred in the performance of air transportation. Includes direct aircraft operating expenses, ground, and indirect operating expenses.

OPERATING REVENUES:

Includes revenues from the performance of air transportation and transport related activities. See "Transport Related Revenues."

OTHER TRANSPORT REVENUES:

Miscellaneous revenues associated with air transportation performed by the air carrier, such as airline employees, officers and directors, or other persons, except ministers of religion who travel under reduced rate transportation; reservation cancellation fees; and other items not specified in other transport revenue accounts.

OVER-ALL OPERATING EXPENSES:

See "Operating Expenses."

OVER-ALL OPERATING REVENUES:

See "Operating Revenues."

OVER-ALL REVENUE LOAD FACTOR:

The percent that total revenue ton-miles (passenger plus nonpassenger) are of available ton-miles in revenue services, representing the proportion of the over-all capacity that is actually sold and utilized.

OVER-ALL REVENUE LOAD PER AIRCRAFT:

The average over-all tonnage carried per aircraft in revenue services derived by dividing the over-all revenue ton-miles by the over-all aircraft miles flown in revenue services.

OVER-ALL TRANSPORT REVENUES:

See "Transport Revenues."

PASSENGER-MILE:

One passenger transported 1 mile. Passenger-miles are computed by summation of the products of the aircraft miles flown on each interairport flight stage multiplied by the number of passengers carried on that flight stage.

PASSENGER ENPLANEMENTS:

The total number of revenue passengers boarding aircraft, including originating and stopover or on-line transfer passengers.

PASSENGER REVENUES:

Revenues from the transportation of passengers by air.

PASSENGER SERVICE EXPENSES:

Costs of activities contributing to the comfort, safety, and convenience of passengers while in flight and when flights are interrupted. Includes salaries and expenses of cabin attendants and passenger food expense.

PASSENGER REVENUE TON-MILE:

One ton of revenue passenger weight (including all baggage) transported 1 mile. The passenger weight standard for both "Domestic" and "International" operation is 200 pounds.

REVENUE PASSENGER ENPLANEMENTS:

The total number of passengers boarding aircraft derived from a standard number of passenger enplanements per on-line originating passenger.

REVENUE PASSENGER LOAD FACTOR:

The percent that revenue passenger-miles are of available seat-miles in revenue passenger services, representing the proportion of aircraft seating capacity that is actually sold and utilized.

REVENUE PASSENGER-MILE:

One revenue passenger transported 1 mile in revenue service. Revenue passenger-miles are computed by summation of the products of the revenue aircraft-miles flown on each interairport flight stage multiplied by the number of passengers carried on that flight stage.

REVENUE TON-MILE OF FREIGHT:

One short ton of freight transported 1 statute mile. Ton-miles are computed by summation of the products of the aircraft miles flown on each interairport flight stage multiplied by the number of tons carried on that flight stage.

SCHEDULED SERVICE:

Transport service operated over an air carrier's certificated routes, based on published flight schedules, including extra sections and related nonrevenue flights.

SCHEDULED ALL-CARGO CARRIER:

One of a class of air carriers holding Certificates of Public Convenience and Necessity, issued by the CAB, authorizing the performance of scheduled air freight, express, and mail transportation over specified routes, as well as the conduct of nonscheduled operations (charter), which may include passengers.

SUPPLEMENTAL AIR CARRIER:

One of a class of air carriers now holding certificates, issued by the CAB, authorizing them to perform passenger and cargo charter services supplementing the scheduled service of the certificated route air carriers. Supplemental air carriers are often referred to as "nonskeds," i.e., nonscheduled carriers.

TRANSPORT RELATED EXPENSES:

Expenses from services related to air transportation such as in-flight sales of liquor, food and other items: ground, restaurant and food services, rental expense as lessor, interchange sales, general service sales, mutual aid, substitute service and air cargo service (other than actual air movement).

TRANSPORT RELATED REVENUES:

Revenues from services related to air transportation such as enumerated above under "Transportation Related Expenses."

TRANSPORT REVENUES:

Revenues from transportation by air of all classes of traffic in scheduled and nonscheduled service, including the performance of charters.

TURBOFAN AIRCRAFT:

Aircraft propelled by a turbojet engine whose thrust has been increased by the addition of a low-pressure compressor (fan). The turbofan engine can have an oversized low-pressure compressor at the front, with part of the flow by-passing the rest of the engine (front-fan or forward-fan), or it can have a separate fan driven by a turbine stage (aft-fan).

TURBOJET AIRCRAFT:

Aircraft propelled by jet engines incorporating a turbine-driven air compressor to take in and compress the air for the combustion of fuel, the gases of combustion (or the heated air) being used both to rotate the turbine and to create a thrust-producing jet.

TURBOPROP AIRCRAFT:

Aircraft in which the main propulsive force is supplied by a conventional propeller driven by a gas turbine. Additional propulsive force may be supplied from the discharged turbine exhaust gas.

HIGHWAY TERMINOLOGY

FEDERAL EXPENDITURES:

Intergovernmental payments to the State, District of Columbia, and local governments plus direct expenditures for capital outlay, maintenance, administration, and research.

MUNICIPAL MILEAGE:

Roads inside city, municipal district, or urban boundaries: includes extensions of the state primary system, and state secondary roads within delimited incorporated and unincorporated places, and mileage under local control; e.g., local city streets, roads, and public ways not under State control within such places.

RURAL MILEAGE:

Roads outside city, municipal district, or urban boundaries.

STATE AND LOCAL EXPENDITURES:

Disbursements for capital outlay, maintenance and traffic surfaces, administration, and research, highway law enforcement and safety, and interest on debt.

STATE PRIMARY SYSTEM:

This refers to highways that have been so officially designated by States. They encompass the principal intercounty, intercity and interstate roads of all states.

STATE SECONDARY ROADS:

This mileage is reported in the tables for the States (taken from the Highway Statistics 1970 Bulletin) that have designated both a primary and secondary system.

AUTOMOBILE TERMINOLOGY

ACCIDENT:

An accident is an unintended event that produces injury or damage. The word "injury" includes "fatal injury."

COMPACT-SIZE CAR:

An automobile industry designation usually consisting of cars with a wheelbase between 101 and 111 inches. After 1975 these are included in the SMALL category.

FATAL ACCIDENT:

A fatal accident is any motor vehicle or other road vehicle accident that results in fatal injuries to one or more persons.

INTERMEDIATE-SIZE CAR:

An automobile industry designation usually consisting of cars with a wheelbase between 112 and 118 inches.

LOCAL RURAL ROADS:

Streets outside urban boundaries other than principal arteries of travel.

MAIN RURAL ROADS:

Streets outside urban boundaries that are generally recognized as principal arteries of travel.

MOTORCYCLE:

Two-wheeled automotive vehicle having one or two saddles and sometimes a sidecar with a third supporting wheel.

PASSENGER-MILES:

This figure represents the total distance traveled by all passengers in passenger cars and taxis. One passenger traveling 1 mile generates 1 passenger-mile.

REVENUES-TAXI:

Fares paid by passengers riding in taxis.

STANDARD-SIZE CAR:

An automobile industry designation usually consisting of cars with a wheelbase of greater than or equal to 119 inches.

SUBCOMPACT-SIZE CAR:

An automobile industry designation usually consisting of cars with a wheelbase of less than or equal to 100 inches. After 1975 these are included in the SMALL category.

VEHICLE-MILES:

Automobile vehicle-miles are estimated by calculating the number of gallons of gas sold from gasoline tax receipts and multiplying by the average number of miles per gallon.

VEHICLE-MILE (BY TYPE OF STREET):

These figures represent the total number of miles traveled by passenger cars, taxis, and motorcycles on the different types of streets. One vehicle traveling 1 mile generates 1 vehicle-mile.

URBAN STREETS:

Street within urban boundaries.

BUS TERMINOLOGY

COMMERCIAL BUS:

Any bus used to carry passengers at rates specified in tariffs; charges may be computed per passenger (as in regular route service) or per vehicle (as in charter service).

EXPENDITURES — SCHOOL BUS:

This is the total expenditure for operation, maintenance, insurance, depreciation, operating taxes, licenses, and operating rents for vehicles used as school buses.

INTERCITY BUS — CLASS I:

An interstate motor carrier of passengers with an average annual gross revenue of at least $1,000,000 is defined by the ICC as a Class I carrier.

INTERCITY BUS — TOTAL:

This figure includes Class I, II, and III interstate carriers, all of which report to the Interstate Commerce Commission, and intrastate carriers.

MOTORBUS:

Rubber-tired, self-propelled transit vehicle with fuel supply carried on board the vehicle.

REVENUE PASSENGERS:

Passengers on a commercial bus by or for whom a fare is paid.

REVENUE PASSENGER-MILES:

One revenue passenger carried 1 mile generates 1 passenger-mile. The revenue passenger miles reported thus represent the total distance traveled by all bus passengers.

SCHOOL AND NONREVENUE BUS:

Passengers using these are not directly charged for transportation, either on a "per passenger" or on a "per vehicle" basis.

TAXES ASSIGNABLE TO OPERATIONS:

Includes the amount of federal, state, county, municipal, and other taxing district taxes which relate to motor carrier operations and property use therein (except income taxes on ordinary income).

VEHICLE-MILE:

One vehicle traveling 1 mile generates 1 vehicle-mile. Thus, total vehicle-miles is the total mileage traveled by all vehicles.

TRUCK TERMINOLOGY

AVERAGE LENGTH OF HAUL (MILES):

The total number of ton-miles divided by the total number of tons carried.

COMBINATION TRUCKS:

Consist of a power unit (a truck tractor) and one or two trailing units (a semi-trailer). The most frequently used combination is popularly referred to as a "tractor-semitrailer" or a "tractor trailer."

GROSS VEHICLE WEIGHT (GVW):

The weight of the empty vehicle plus the maximum anticipated load weight.

ICC-REGULATED CARRIER:

A motor common carrier operating in interstate commerce under a grant of authority from the Interstate Commerce Commission and subject to its economic regulation.

NON-ICC-REGULATED CARRIER:

A motor carrier not subject to the economic regulation of the ICC. The category includes intrastate carriers, private carriers hauling only the goods of their owners, and carriers of commodities, the transportation of which is exempt from ICC economic regulation.

OPERATING EXPENSES:

This includes expenditures for equipment maintenance, supervision, wages, fuel, equipment rental, terminal operations, insurance, safety, and administrative and general functions.

OPERATING REVENUES OF CLASS I INTERCITY MOTOR CARRIERS:

This term is defined by the ICC to include the five categories of revenue listed in the text.

REVENUE:

The total amounts received by carriers for transportation and other services.

TON-MILES:

The transportation of 1 short ton (2,000 lbs) of freight a distance of 1 mile generates 1 ton-mile.

VEHICLE-MILES:

This term includes miles operated by power units upon urban streets, main rural roads, and local rural roads.

LOCAL TRANSIT TERMINOLOGY

ELECTRIFIED ROADWAY (RAILROAD):

Track along which a locomotive or rail motor car can receive electrical power generated at a remote location.

HEAVY RAIL:

Rail rapid transit services.

LIGHT RAIL:

Streetcar, trolley car, or light surface rail operations, including private right-of-way operations, typified by low platform stations, one-man operations at all times, capability for on-board fare collection, and actual on-board fare collection most of the time.

MOTORBUS:

Rubber tired, self-propelled transit vehicle with fuel supply carried on board the vehicle.

OPERATING EXPENSES:

These expenditures include outlays for maintenance, wages, fuel, licensing, insurance, rent, safety, operating taxes, and station operations.

OPERATING REVENUE:

Includes passenger revenue and revenue from charter and contract services.

PASSENGER REVENUE:

The total of all moneys paid by passengers to ride on scheduled trips. This includes single trip fares, and charges for transfers, weekly, monthly, and other unlimited-usage tickets.

REVENUE PASSENGERS CARRIED:

The total number of transit rides from origin to destination taken by passengers. Thus, a multi-vehicle ride would be counted only once. A ride by a nonrevenue passenger would not be counted.

REVENUE VEHICLE-MILES:

One vehicle (bus, trolley car, subway car, etc.) traveling 1 mile while revenue passengers are on board generates 1 revenue vehicle-mile. The revenue vehicle-miles reported thus represent the total mileage traveled by vehicles in scheduled or unscheduled revenue-producing services.

TROLLEY COACH:

A vehicle with the steering capability of a motor bus, running on rubber tires, but drawing power from electric overhead wires.

WATER TRANSPORT TERMINOLOGY

BUNKER C/NUMBER 6 FUEL OIL:

A high viscosity oil used mostly by ships, industry, and large-scale heating installations. This heavy fuel requires preheating in the storage tank to permit pumping and additional preheating to permit atomizing at the burners.

CLASS A CARRIERS BY INLAND AND COASTAL WATERWAYS:

A class A carrier by water is one with an average annual operation revenue that exceeds $500,000.

CLASS B CARRIERS BY INLAND AND COASTAL WATERWAYS:

A class B carrier by water is one with an average annual operating revenue greater than $100,000 but less than $500,000.

COASTWISE TRAFFIC:

Domestic traffic is coastwise when it moves over the ocean, or the Gulf of Mexico; e.g., between New Orleans and Baltimore, New York and Puerto Rico, San Francisco and Hawaii, Puerto Rico and Hawaii. Traffic between Great Lakes ports and seacoast ports, when having a carriage over the ocean, is also deemed to be coastwise. The Chesapeake Bay and Puget Sound are considered internal bodies of water rather than arms of the ocean; traffic confined to these areas is deemed to be "internal" rather than coastwise.

DOMESTIC FREIGHT:

All waterborne commercial movements between points in the United States, Puerto Rico and the Virgin Islands, excluding traffic with the Panama Canal Zone. Cargo moved for the military in commercial vessels is reported as ordinary commercial cargo; military cargo moved in military vessels is omitted.

DOMESTIC PASSENGER:

Any person traveling on a public conveyance by water between points in the United States, Puerto Rico, and the Virgin Islands.

DRY CARGO BARGES:

Large flat-bottomed, non-self-propelled vessels used to transport dry bulk materials such as coal and ore.

EXPORTS:

Outbound international freight including re-export of foreign merchandise.

IMPORTS:

Inbound international freight.

INLAND AND COASTAL WATERWAYS
INLAND AND COASTAL CHANNELS:

These terms include the Atlantic Coast Waterways, the Atlantic Intracoastal Waterway, the New York State Barge Canal System, the Gulf Coast Waterways, the Gulf Intracoastal Waterway, the Mississippi River System (including the Illinois Waterway), Pacific Coast Waterways, the Great Lakes, and all other channels (waterways) of the United States, exclusive of Alaska, that are usable for commercial navigation.

INTERNAL TRAFFIC:

Traffic is internal when the entire movement between ports or landings takes place on inland waterways. The following types of movements are also termed internal: movements involving carriage on both inland waterways and waters of the Great Lakes, inland movements that cross short stretches of open waters that link inland systems; marine products, sand and gravel taken directly from beds of the oceans, the Gulf of Mexico and important arms thereof, and movements between offshore installations and inland waterways.

INTERNATIONAL (FOREIGN) FREIGHT:

Movements between the United States and foreign countries and between Puerto Rico, the Virgin Islands and foreign countries. Trade between U.S. territories and possessions (i.e., Guam, Wake, American Samoa, etc.) and foreign countries is excluded. Traffic to or from the Panama Canal Zone is included.

INTERNATIONAL PASSENGER:

Any person traveling on a waterborne public conveyance between the United States and foreign countries and between Puerto Rico and the Virgin Islands and foreign countries.

INTRATERRITORIAL TRAFFIC:

Traffic between ports in Puerto Rico and the Virgin Islands, which are considered as a single unit.

LAKEWISE OR GREAT LAKES:

These terms apply to traffic between U.S. ports on the Great Lakes system. The Great Lakes system is treated as a separate system rather than as a part of the inland system.

LOCAL:

Movements of freight within the confines of a port, whether the port has only one or several arms or channels, except car-ferry and general ferry, are termed "local." The term is also applied to marine products, sand, and gravel taken directly from the Great Lakes.

MARITIME CARRIERS:

Maritime carriers operate on the open sea; i.e., their operations must include a foreign or international component and may include a domestic component.

MARITIME REVENUE:

Revenue received for operations in international or foreign shipping.

NON-SELF PROPELLED:

Vessels not containing within themselves the means for their own propulsion.

PASSENGER-MILE, INTERCITY:

Moving one passenger 1 mile on a trip between two cities generates 1 intercity passenger mile.

SELF-PROPELLED TOWBOAT:

A compact, shallow-draft boat with a squared bow and towing "knees" for pushing tows of barges on inland waterways.

SCOWS:

Large, flat-bottomed non-self-propelled vessels used to transport sand, gravel, or refuse.

TANK BARGES:

Large, flat-bottomed non-self-propelled vessels used to transport fluids such as oils.

TON-MILE:

Moving 1 ton 1 mile generates 1 ton-mile.

TON-MILE, DOMESTIC DEEP SEA:

Moving 1 ton 1 mile by a domestic water carrier over open ocean generates 1 domestic deep-sea ton-mile.

TONS OF FREIGHT HAULED:

The figures for tons of freight hauled on domestic waterways include exports and imports.

TUG:

A strongly built, self-propelled boat used for towing and pushing.

RAILROAD TERMINOLOGY

AMTRAK (AMERICAN RAILROAD TRACKS):

Operated by the National Railroad Passenger Corporation of Washington, D.C. This rail system was created by President Nixon in 1970 and was given the responsibility for the operation of intercity, as distinct from suburban, passenger trains between points designated by the Secretary of Transportation.

AVERAGE HAUL:

The average distance in miles that 1 ton is carried. It is computed by dividing the number of ton-miles generated by the number of tons carried to generate that number of ton-miles.

AVERAGE PASSENGER TRIP LENGTH:

Calculated by dividing the number of revenue passenger miles by the number of revenue passengers carried.

CAR MILEAGE:

Movement of a car 1 mile is a car-mile.

Class I Railroad:

A railroad with an annual operating revenue of greater than $5,000,000. Effective January 1, 1976, the minimum annual operating revenue requirement was raised to $10,000,000; on January 1, 1978, the requirement was raised to $50,000,000.

COMMUTATION TICKET:

A ticket intended for use by a person traveling on a daily basis, i.e., to and from work; such a ticket is typically valid for an extended time period (i.e., a week or a month); the charge for such a ticket reflects a discount from the sum of the one-way fares that would be paid by the ticket-holder for the period of validity in the absence of such a reduced-rate ticket.

EXPRESS REVENUE:

Revenue from transportation of express shipments and from the use of facilities on trains and at stations incidental to such transportation.

FREIGHT REVENUE:

Revenue from the transportation of freight and from the exercise of transit, stop-off, diversion, and reconsignment privileges, as provided for in tariffs.

LINE MILEAGE:

The aggregate length of roadway of all line-haul railroads. It does not include the mileage of yard tracks or sidings, nor does it reflect the fact that a mile of railroad may include two or more parallel tracks. Jointly-used track is counted only once.

LOCOMOTIVE MILEAGE:

Movement of a locomotive unit 1 mile is a locomotive-mile.

LOCOMOTIVES:

Self-propelled units of equipment designed solely for moving other equipment.

MAIL REVENUE:

Revenue from the transportation of mail at established rates, and for services and facilities provided in connection with the handling of U.S. mail.

OPERATING EXPENSES:

Expenses of furnishing transportation service, including maintenance and depreciation.

OTHER REVENUE:

This is a general heading that includes revenues from miscellaneous operations (i.e., dining and bar car services), income from lease of road and equipment, miscellaneous rent income, income from non-operating property, profit from separately operated properties, dividend income, interest income, income from sinking and other reserve funds, release or premium on funded debt, contributions from other companies, and other miscellaneous income.

PASSENGER REVENUE — COMMUTATION:

Revenue from the sale of commutation tickets.

PASSENGER REVENUE — OTHER THAN COMMUTATION:

Revenue from the transportation of paying passengers not holding commutation tickets; this classification includes basic one-way and round-trip fares, discounted fares offered for the clergy and military, special excursion fares offered to travelers meeting the requirements for eligibility for those fares, (i.e., origin/destination, time of travel, length of stay at destination), revenue from the extra charges made for occupancy of space in parlor and sleeping cars, and revenue from the transportation of corpses.

PASSENGER TRAIN CARS:

Cars typically found in passenger trains include coaches, sleeping cars (formerly called Pullman cars), parlor cars, dining cars, lounge cars, baggage cars, crew-dormitory cars, and observation cars.

RAIL MOTOR CARS:

Self-propelled passenger rail cars which are driven by electric motors energized from an electrified roadway or by a generator driven by a diesel or gas turbine engine.

REVENUE PASSENGERS CARRIED — COMMUTATION:

Number of one-way trips made by persons holding commutation tickets.

REVENUE PASSENGERS CARRIED — OTHER THAN COMMUTATION:

Number of one-way trips by passengers paying their fares at other than commutation ticket rates; this excludes passengers lawfully traveling without paying.

REVENUE PASSENGER-MILE:

One revenue passenger traveling 1 mile generates 1 revenue passenger-mile. The revenue passenger-miles reported thus represent the total distance traveled by all railroad passengers.

REVENUE TON-MILES:

The product of weight of the contents of a freight car in tons and the distance transported in miles; i.e., n tons moving m miles generate n x m revenue ton-miles.

TOTAL OPERATING REVENUES:

The amount or money that carriers become entitled to receive from transportation and from operations incident thereto.

OIL PIPELINE TERMINOLOGY

COKE:

The residue left by petroleum which has been distilled to dryness.

CRUDE OIL:

A mixture of hydrocarbons that exists in the liquid phase in natural underground reservoirs and remains liquid at atmospheric pressure after passing through surface-separating facilities.

CRUDE OIL GATHERING LINES (PIPELINE SYSTEMS):

A network of pipelines transporting crude oil from individual wells to compressor station, processing point, or main trunk pipeline.

CRUDE OIL TRUNK LINES (PIPELINE SYSTEMS):

One of three types of pipeline network that is used to transport crude oil to the refineries for processing.

CRUDE RUNS:

Amount of crude actually processed by the refiner for the production of petroleum products, as distinct from capacity.

CRUDE SHALE OIL:

The oil obtained as a distillate by the destructive distillation of oil shale.

DISTILLATE FUEL OIL:

The lighter fuel oils distilled off during the refining process. Included are products known as ASTM grades Nos. 1 and 2 heating oils, diesel fuels, and No. 4 fuel oil. The major uses of distillate fuel oils include heating, fuel for on- and off-highway diesel engines, and railroad diesel fuel.

DISTILLATE OIL:

Fuel which may be used in diesel engines (i.e., water vessels, railroads, trucks, etc.).

ICC-REGULATED PIPELINE:

A pipeline company operating in interstate commerce under a grant of authorization from the Interstate Commerce Commission and subject to economic regulation by the Commission. Such a pipeline company is required to report relevant statistics to the ICC.

MIDDLE DISTILLATES:

A category of petroleum fuel that includes the diesel fuels burned by surface transportation carriers, as well as home heating oil.

NON-REGULATED PIPELINE:

A pipeline company not operating as a common carrier in interstate commerce, hence required neither to secure a grant of operating authority from the Commission nor to report to it.

NO. 2 DISTILLATE FUEL OIL:

A petroleum distillate which meets the specifications for No. 2 heating oil and/or the specifications for diesel fuel grade No. 2.

OIL SHALE:

A finely grained sedimentary rock composed mostly of clay that contains an organic material called kerogen. When the kerogen is heated to about 482 degrees C (900 degrees F), it is converted to shale oil and gas. The shale oil that is derived from kerogen is low in sulfur; and although it varies in some respects from conventional petroleum, it can be refined into most petroleum products.

OPEC:

Organization of Petroleum Exporting Countries including Saudi Arabia, Iran, Venezuala, Libya, Indonesia, United Arab Emirates, Algeria, Nigeria, Ecuador, Gabon, Iraq, Kuwait, and Qatar.

OPERATING EXPENSES:

Expenditures necessarily made while providing services by which operating revenue is earned.

OPERATING REVENUE:

Revenue from the transportation of oil and from services incidental to such transportation.

OTHER DISTILLATE FUEL OILS:

All other refined petroleum products not included in any other category and which, when produced in conventional distillation operations, have a boiling range from 10% point at 167 degrees C to 90% point at 375 degrees C. Included are products known as No. 1 and No. 4 distillate fuel oils and diesel oils.

PETROLEUM:

A material occurring naturally in the earth and predominantly composed of mixtures of chemical compounds of carbon and hydrogen with or without other nonmetallic elements such as sulfur, oxygen, nitrogen, etc. Petroleum may contain, or be composed of, such compounds in the gaseous, liquid, and/or solid state, depending on the nature of these compounds and the existent conditions of temperature and pressure.

PETROLEUM CONSUMPTION, ELECTRIC UTILITY SECTOR:

Domestic demand for all fuel oils at electric utilities.

PETROLEUM CONSUMPTION, INDUSTRIAL SECTOR:

Domestic demand for petroleum products for use by establishments engaged in processing unfinished materials into another form or product. Excludes industrial space heating.

PETROLEUM CONSUMPTION, "OTHER" SECTOR:

Domestic demand for miscellaneous products and for some agricultural uses.

PETROLEUM CONSUMPTION, RESIDENTIAL AND COMMERCIAL:

Domestic demand for petroleum products by private households and non-manufacturing establishments. Includes industrial space heating and road paving.

PETROLEUM CONSUMPTION, TRANSPORTATION SECTOR:

Domestic demand for petroleum products for on-highway use, aircraft and vessel bunkering, and railroad use.

REFINED PRODUCT TRUNK LINES (PIPELINE SYSTEMS):

One of three types of pipeline network that is used to transport refined petroleum products (i.e., gasoline, kerosene, residual oil, etc.) from the refineries to local distribution centers near large market areas.

RESIDUAL FUEL OIL:

The heavier oils that remain after the distillate fuel oils and lighter hydrocarbons are boiled off in refinery operations. Included are products known as ASTM grade Nos. 5 and 6 oil, heavy diesel oil, Navy Special Fuel Oil, Bunker C oil, and acid sludge and pitch used as refinery fuels. Residual fuel oil is used for the production of electric power, for heating, and for various industrial purposes.

SHALE OIL:

The liquid oil product recoverable from the thermal decomposition of kerogen, the organic material present in oil shale.

WAXES:

Derivatives of petroleum which are extracted from lubricating oil fractions by chilling, filtering and solvent washing. There are two types: paraffin and microcrystalline.

GAS PIPELINE TERMINOLOGY

GAS TRANSMISSION COMPANY:

A company which obtains most of its gas operating revenues from the operation of a gas transmission pipeline and/or from main line sales to industrial customers.

DISTRIBUTION MAINS:

Generally, mains which carry or control the supply of gas from the point of supply to the sales meters.

FIELD AND GATHERING PIPELINES:

A network of pipelines transporting natural gas from individual wells to a compressor station, processing point, or main trunk pipeline.

LIQUID PETROLEUM GAS (LPG):

Consists of propane and butane and is usually derived from natural gas. In locations where there is no natural gas and the gasoline consumption is low, naphtha is converted to LPG by catalytic reforming.

NATURAL GAS LIQUIDS:

Those liquid hydrocarbon mixtures which are gaseous at reservoir temperatures and pressures but are recoverable by condensation or absorption. Natural gasoline and liquefied petroleum gas such as propane and butane are principal examples.

NATURAL GAS:

A naturally occurring mixture of hydrocarbon and non-hydrocarbon gases found in porous geologic formations beneath the earth's surface, often in association with petroleum. The principal constituent is methane.

TRANSMISSION PIPELINE:

Pipelines installed for the purpose of transmitting gas from a source of supply to one or more distribution centers, to one or more large-volume customers, or a pipeline installed to interconnect sources of supply.

ENERGY TERMINOLOGY

BTU — BRITISH THERMAL UNIT:

The amount of heat required to raise the temperature of 1 pound of water 1 degree Fahrenheit.

COAL:

A solid, brittle, more or less distinctly stratified combustible carbonaceous rock formed by partial to complete decomposition of vegetation. It varies in color from dark brown to black, is not fusible without decomposition, and is very insoluble. Coals can be ranked or divided into the following classes: (1) lignite, (2) sub-bituminous, (3) bituminous, (4) semibituminous, (5) semianthracite, and (6) anthracite.

COAL SLURRY:

Finely crushed coal mixed with sufficient water to form a fluid. To use coal slurry pumped through a pipeline as fuel, expensive drying and dewatering pretreatment is necessary.

COAL TAR:

A gummy, black substance produced as a byproduct when bituminous coal is distilled.

CONDENSATE:

The liquid resulting when a vapor is subjected to cooling and/or pressure reduction. Also, liquid hydrocarbons condensed from gas and oil wells.

FOSSIL FUELS:

Any naturally occurring fuel of an organic nature such as coal, crude oil, or natural gas.

IMPORTS:

All imports of crude petroleum, natural gas liquids, and petroleum products from foreign countries and receipts from Guam, Puerto Rico, the Virgin Islands, and the Hawaiian Trade Zone. The commodities included are crude oil, unfinished oils, plant condensate, and refined petroleum products.

INVENTORIES:

The amounts of crude oil, unfinished oil, petroleum products, and natural gas liquids held at refineries, at natural gas processing plants, in pipelines, at bulk terminals operated by refining and pipelines companies, and at independent bulk terminals. Crude oil held in storage on leases is also included; these stocks are known as primary stocks. Secondary stocks in those held by jobbers, dealers, service station operators, and consumers are excluded. Prior to 1975, stocks held at independent bulk terminals were classified as secondary stocks.

PIPELINE:

A line of pipe with pumping machinery and apparatus for conveying a liquid or gas.

PROVED RESERVES (ECONOMICALLY RECOVERABLE RESERVES):

Those resources (coal, oil, natural gas) that have actually been discovered and can be produced under current economic and technological conditions.

RESERVES:

Identified deposits of minerals known to be recoverable with current technology under present economic conditions. Categories of reserves are: (1) Measured Reserves — identified resources from which an energy commodity can be economically extracted with existing technology and whose location, quality, and quantity are known for geologic evidence supported by engineering evidence; (2) Indicated Reserves — reserves based partly on specific measurements, samples, or production data, and partly on projections for a reasonable distance on geologic knowledge for which quantitative measurements are not available. Such reserves are estimated to be recoverable in the future as a result of extensions, revisions of estimates, and deeper drilling in known fields.

SOLVENT REFINED COAL:

A coal liquefication process in which the coal is mixed with a liquid solvent, then heated and passed to a high pressure reactor where hydrogen and hydrogen sulfide are separated from the mixture. It is then filtered, the solvent is distilled for reuse, and the final product is recovered either as a liquid or solid.

TRANSPORTATION TERMINOLOGY

CONSTANT DOLLARS:

A series is said to be expressed in "constant dollars" when the effect of change in the purchasing power of the dollar has been removed. Usually the data are expressed in terms of dollars of some selected year or the average of some set of years.

CURRENT DOLLARS:

Dollars current at the time designated or at the time the transaction listed took place. In most contexts, the same meaning would be conveyed by the simple term "dollars."

DIESEL ENGINE:

An internal combustion engine in which the fuel is sprayed directly into the combustion chamber and ignited by the high temperature to which the air in the combustion chamber has been heated during the compression process. There are approximately 400 different variations in size, number of cylinders, and power output of diesel engines. The engines are relatively costly, but they operate with high efficiency combined with a long life span.

ENERGY EFFICIENCY:

In reference to transportation, the inverse of energy intensiveness: the ratio of outputs from a process to the energy inputs; for example, passenger-miles traveled (PMT) per gallon of fuel.

GASOLINE:

A refined petroleum product which, by its composition, is suitable for use as a fuel in internal combustion engines.

GROSS NATIONAL PRODUCT (GNP):

Total value at market prices of all goods and services produced by the nation's economy. As calculated quarterly by the Department of Commerce, Gross National Product is the broadest available measure of the level of economic activity.

LOAD FACTOR:

The ratio of actual load to full capacity.

MILE (STATUTE):

5280 feet.

MOTOR GASOLINE:

A mixture of volatile hydrocarbons suitable for operation of an internal combustion engine whose major components are hydrocarbons with boiling points ranging from 78 to 217 degrees Centigrade whose source is distillation of petroleum and cracking, polymerization, and other chemical reactions by which the naturally occurring petroleum hydrocarbons are converted into those that have superior fuel properties.

PSI:

Pounds per square inch.

TOTAL VEHICLE-MILES OPERATED:

Sum of all passenger vehicle-miles operated in line (regular) service, special (charter) service, and nonrevenue service. When vehicles are operated in trains, each vehicle is counted separately: an eight-vehicle train operating for 1 mile equals 8 vehicle-miles.

TRANSPORTATION SECTOR:

Consists of both private and public passenger and freight transportation as well as government transportation, including military operations.

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